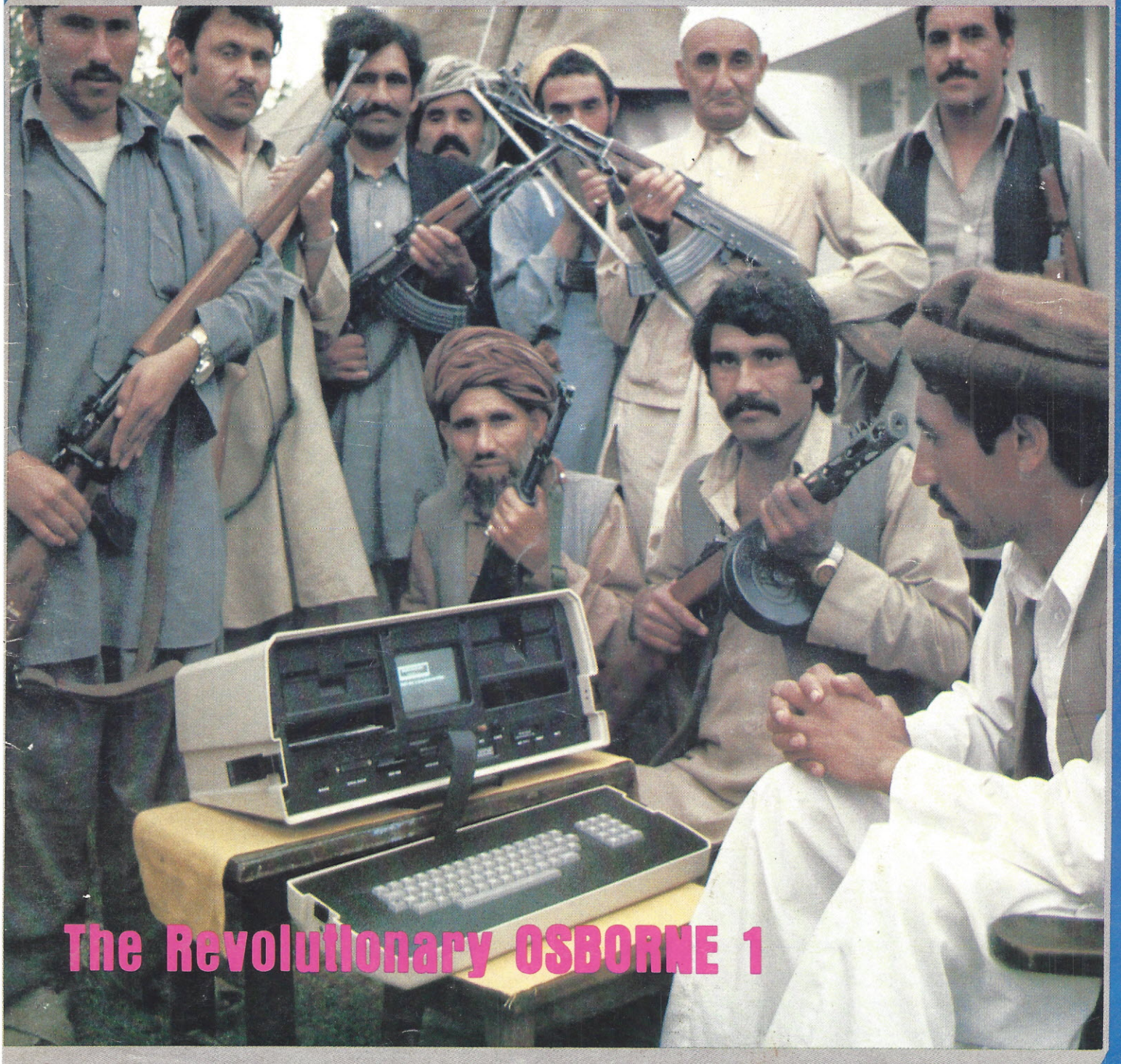
the Portable Companion

$2.95
June/July 1982

Premiere Issue



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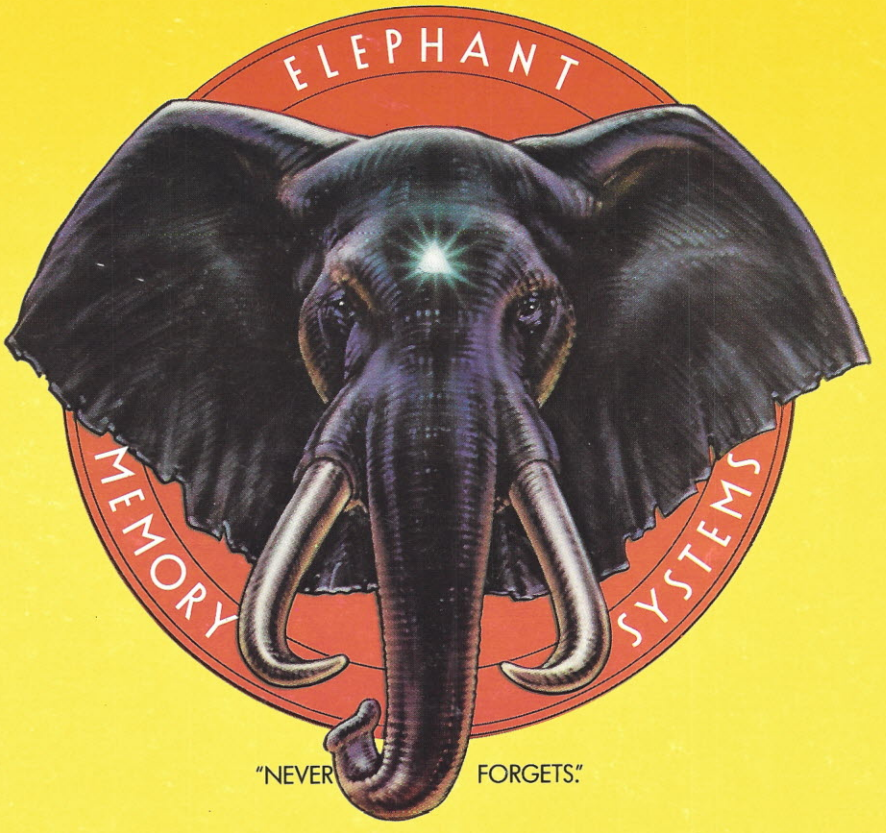

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Start Up

There's one thing the computer industry doesn't need: another glossy magazine published by a computer manufacturer touting its product. And if I have anything to say about it, you won't see another one.

When Adam Osborne first presented his idea for starting a magazine for Osborne 1 owners, he was quite clear that he wasn't interested in advertising fodder, trumped up fluff about the product, or something pretty to set alongside the pedestrian-looking computer he manufactures. No, Adam wanted something that Osborne 1 owners could use and would want to read from cover to cover every issue.

Thus was *The Portable Companion* born.

Let me tell you what I'm doing to make sure that Adam's desires are met. First, the emphasis in this magazine will be on what to do with your machine after you've bought it. In this and coming issues you'll find articles that instruct you in detail about the finer points of the Osborne 1 and the software that accompanies it.

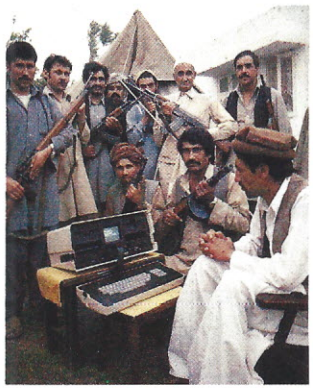
Second, I have offered the First Osborne Group—a multiple-chapter users' group—as much as one-sixth the editorial space to do with what they please. Osborne Computer Corporation will make no changes to the material they submit, with the only exceptions being libel, obscenity, or false representations. The user group input should help keep the editorial tone of the magazine from becoming too self-righteous and also keep it from straying away from its intended purpose of helping Osborne 1 owners.

In addition, we'll take on the tough questions that most companies avoid. The Wizard (of Osborne) column answers the most difficult and persistent reader-supplied questions. Adam Osborne's From the Fountainhead column reappears and, from the vantage point of the presidency of a growing computer firm, Adam will continue to offer his insights into the whos, whats and whys of the microcomputer industry.

I hope you'll agree that *The Portable Companion* is a refreshing, useful, and candid publication. But most of all, this magazine is for you Osborne 1 owners. If there's something we're forgetting, ignoring, or avoiding, don't hesitate to bring it to our attention. After all, even though we make computers, we're only human.

Thom Hogan
publisher

the Portable Companion



Cover Photo: Journalist David Kline recently covered the Afghanistan conflict for *The Chicago Sun-Times* using his Osborne 1. The July issue of *Kilobaud Microcomputing* contains the full story of how Kline managed to file his stories faster using his Osborne 1 and modem. Kline will be reporting on his travel experiences with the Osborne in future issues of *The Portable Companion.* Kline is in white at the lower right; the Afghan rebels are providing unparalleled write protection.

The following people are responsible for this issue of *The Portable Companion:*

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The Portable Companion is published bimonthly by Osborne Computer Corporation as an aid in helping Osborne 1 owners understand and use their computer. If this publication in any way fails to meet your expectations or needs, do not hesitate to write and tell us what we're doing wrong.

Send subscriptions, change of address forms, USPS Form 3579, and any other material to *The Portable Companion,* Osborne Computer Corporation, 26500 Corporate Avenue, Hayward, CA 94545. (ISSN 9732-7501). Subscriptions are $12.50 for six issues, and are not available for overseas or international residents.

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If you're bothered by the gymnastic leaps WordStar sometimes makes while you're editing a document, this article will make things much smoother for you.

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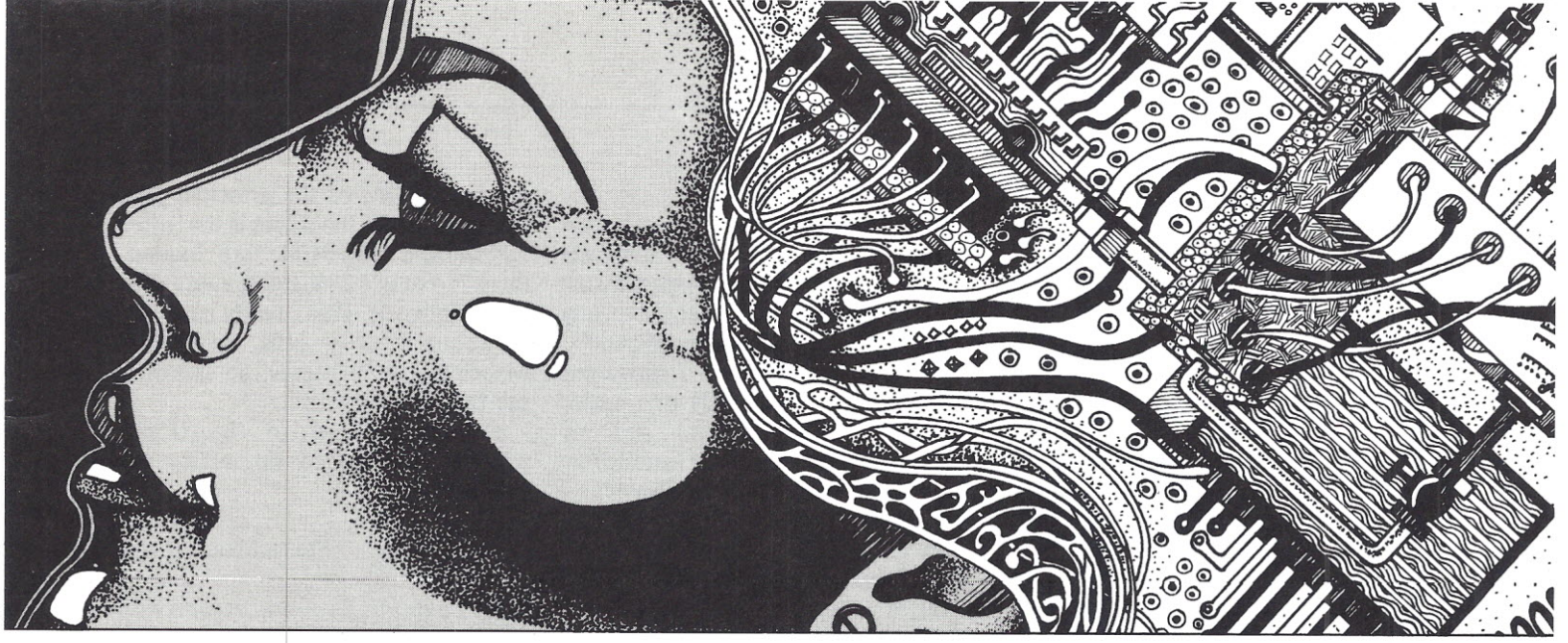

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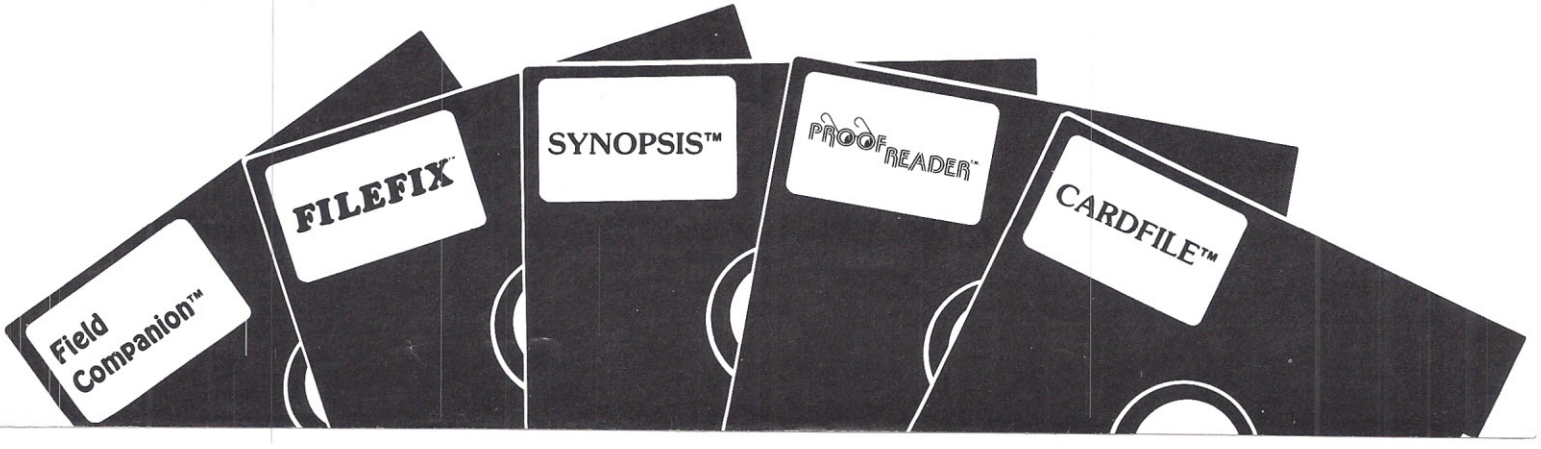

Letters

Interfacing Help Needed

I use the Osborne 1 to calculate various tables and then integrate them into WordStar, wordprocessing files in order to make camera ready copy for my investment publication.

I have had several frustrations along the way, but only one major one remains. I cannot get my Osborne 1 with WordStar installed on my C-Itoh Starwriter as a daisywheel printer. Installed as a Teletype printer with backspacing, everything works fine. I have tried to find out from Orange Micro how to get my Osborne/WordStar/Starwriter operating in the daisywheel mode, but they do not know. After telling me "no problem" when I bought the machine, I now get "it can't be done" without writing a "little software."

At any rate, I am a terrific booster of the Osborne 1. Sure would like to see an Osborne 2 with 128/256K RAM, 8" double density disks, a 9" CRT, and a couple more RS-232 ports, etc. One of the principal problems with 64K machines is that after CP/M and SuperCalc are loaded, there is "only" 28K storage left with which to work. This usually amounts to about 1,000+ cells, so if one wishes to use 250 rows, he can only use four columns, etc.

I look forward to the Users' publication, and to upgrading my Osborne 1.

Al Frank
Santa Monica, CA

We'll be sending you information on connecting your C-Itoh Starwriter to the Osborne 1. We'll also continue to publish articles about connecting printers in The Portable Companion. *As for your other comment, indeed, it is true that 28 K sometimes seems to be too small an area to work with for complex problems. We're perplexed about one thing, however—how do we get everything you want into a portable computer that weighs less than 24 pounds? —th*

We invite your comments. Please send letters to: Letters to the Editor, *The Portable Companion,* Osborne Computer Corp., 26500 Corporate Ave., Hayward, CA 94545

Change and Write Functions

In response to your letter mentioning the Portable Companion user magazine, I have a few comments you might want to include.

The arrow keys currently may be changed using SETUP.COM to CP/M (^L, ^K, ^J, ^H) or WordStar (^E, ^D, ^X, ^S). But you can also change them on the system tracks to whatever ASCII character we wish, using DDT.COM or DU.COM (DU.COM is the disk utility from the CP/M User Group). I have done it using DU.COM. The appropriate area is track 2, sector 6. The data for the ^0 to ^9 keys are in this area and at the end just before a group of 00's should be the control characters in hex. For example, using WordStar you might want to make the left arrow key to be ^ —(control-hyphen), which is 7F hex (this will then delete the character to the left when you press the left arrow key) and you might want the right arrow to be ^ G, or 07 hex, to be able to delete the character to the right with the right arrow key. The order in which the arrows correspond to the control characters is UP, RIGHT, DOWN, LEFT. If you use DDT, the appropriate area is just after the "AUTOST" in the system tracks. Not that you can also change AUTOST to anything you want.

To find the arrow keys using DU.COM, I used the search function to find the string of bytes that consist of 0B, 0C, 0A, and 08 hex. I then used the change and write functions to change the information to the keys I wanted.

Douglas McMahon
Tempe, AZ

We haven't had the chance to check out Mr. McMahon's suggestion, but the concept he describes should work. —th

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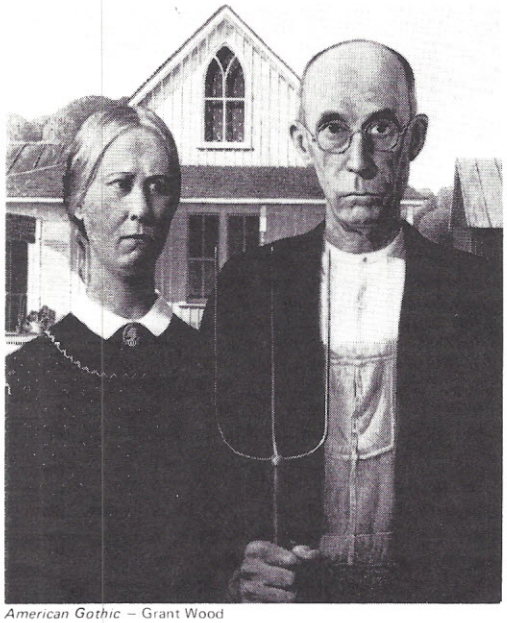

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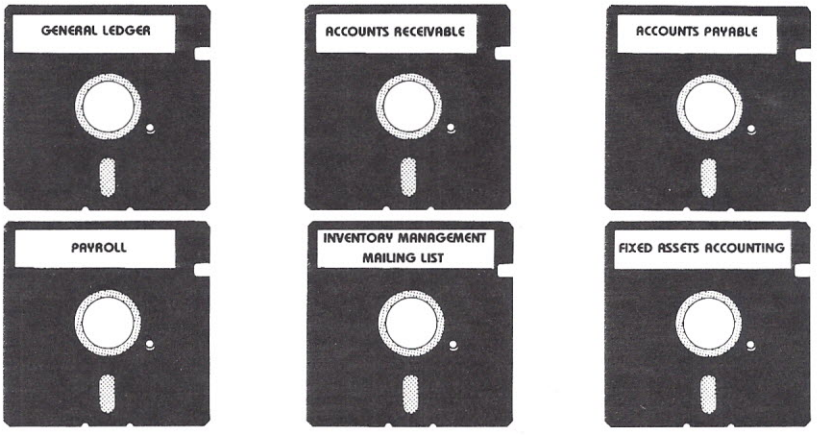

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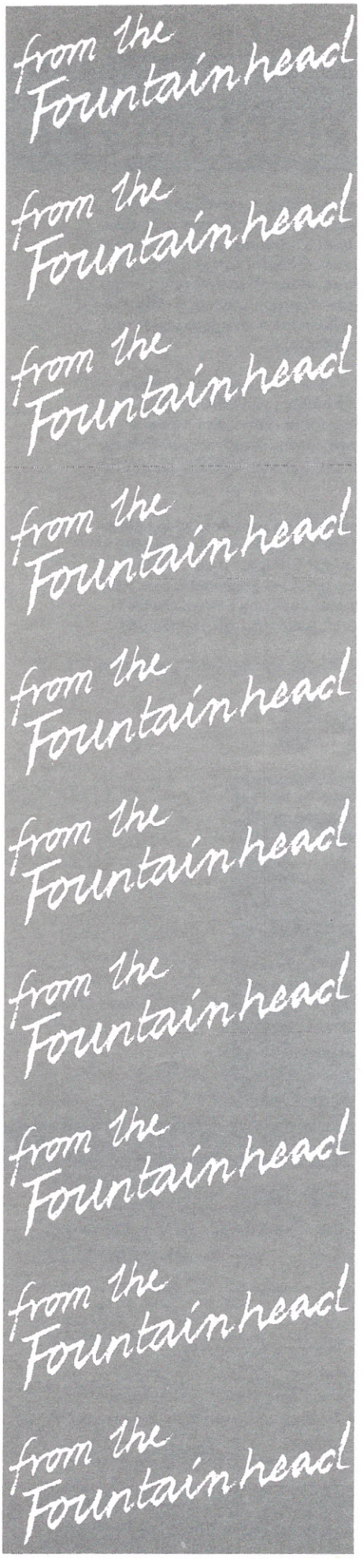

The Story So Far

by Adam Osborne

Back in 1975 I had a small company that wrote technical manuals for minicomputer and microprocessor manufacturers. The company also wrote software for minicomputers. We wrote technical manuals because we could make money at it. We wrote software for the prestige of being something more than a "mere" technical writing service. Technical writers were, and to some extent still are the most despised, underpaid and underprivileged profession within the computer industry.

1975 was not a good year for either the minicomputer or the semiconductor industries. There was a recession on at the time. I sometimes wonder if that recession ever ended. Perhaps we are now in the eighth year of the longest recession this country has seen since World War II. Whether or not that was the case, I can say for sure that in 1975 it was just about impossible to make any money writing technical manuals for programs for minicomputers.

I had written a number of manuals (and a few programs) for the early microprocessors which were around back in those early days. (Hands up those of you who remember the PPS 8, or the IMP 16.)

I became convinced that the microcomputer age would soon be upon us, therefore I decided to get into the microcomputer consulting business. But even in those early days, a lot of other people were sharp enough to have figured out the same thing. My problem, therefore, was to differentiate myself from the thousands of other people who also were planning to become microcomputer consultants.

The solution?

Cash in on my technical writing experience and write a book about microcomputers.

That is precisely what I did. In December of 1975 I self-published a slim volume entitled "An Introduction to Microcomputers." It happened to be the first text in the world describing microcomputers. I put a price tag of $7.50 on this book, expecting to give most of them away, perhaps selling enough to pay my printing expenses.

But things did not work out that way. As happened so often in the early days of the microcomputer industry. I found myself at the center of a success explosion. I gave away very few copies of that early book. Within three months I had sold the lot, and decided that the publishing business was probably more lucrative than the consulting business could ever be.

So I wrote additional books about microcomputers and found myself running a publishing company, which I sold to McGraw-Hill in 1979. Today it is the Osborne division of McGraw-Hill.

As a microcomputer publisher I

from the Fountainhead

had 1976 pretty much to myself. If you wanted to learn about microcomputers, you had the choice of buying one of my books or you bought no book.

A lot of people bought my book and I became fairly well known within the microcomputer industry. In consequence, Bob Jones (the publisher of *Interface Age* magazine) asked if I would be his northwest regional editor. I agreed, in exchange for some free advertising.

My contribution as northwest regional editor quickly developed into a monthly column. The column was entitled, 'From the Fountainhead.'

This title was not an ego trip, rather it was based on the fact that Silicon Valley, the turf from which I was writing, was the microcomputer industry's Fountainhead.

I quickly became the first of the microcomputer industry's "scuttlebutt" columnists. And back in those days there was a lot of scuttlebutt to write about. Computer kits containing untested and sometimes known defective components; people advertising products for sale when they hadn't even started designing them; companies whose finances were so precarious that one bad month and they would have to close their doors: the litany goes on and on.

Fortunately, I could write anything I wanted, about anyone I wanted to write about, providing what I said was accurate. I had never worked for any computer or semiconductor manufacturer, and I derived my income from the sale of books. Therefore no one could put any pressure on me to write nice things about them, or to withhold a story.

I enjoyed writing my "From the Fountainhead" column.

Along the way I moved my column from *Interface Age* magazine to *InfoWorld* because of differences in opinion about how and what I was writing.

At *InfoWorld* my column ran until early 1980, at which time I had to discontinue it since I was well on my way to introducing the Osborne 1. Almost anything I said represented a conflict of interest, a fact which the competent editorial staff at *InfoWorld* frequently brought to my attention. (I had, of course, told them something about my future plans.)

I discontinued my column, since I could no longer write about books, software or hardware, these all representing conflicts of interest with an area where I was doing personal business. There wasn't much left to write about.

The microcomputer industry today is no longer the infant jungle it was back in 1976. There are, nevertheless, numerous significant issues which need to be addressed. Therefore, I have decided to resurrect my "From the Fountainhead" column, publishing it in this magazine. Since it is my own company's magazine, I can take certain liberties with its content which might be inappropriate appearing in a completely independent periodical, such as *InfoWorld*.

You can therefore expect in forthcoming issues to see the reappearance of my commentary on where the microcomputer industry stands today, and what we can expect to see happening in the future.

□

Dr. Adam Osborne is founder and president of Osborne Computer Corporation.

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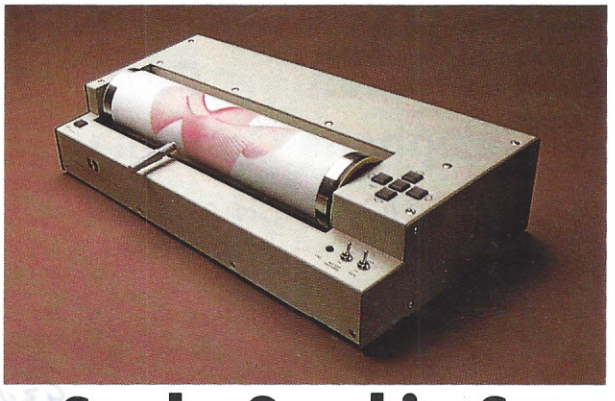

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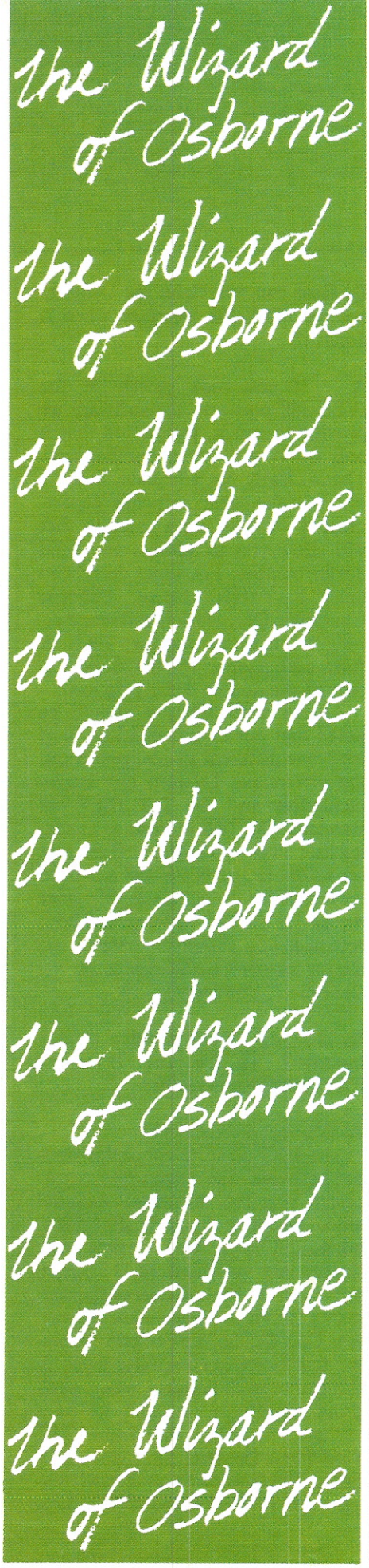

We're Not In Kansas Anymore

by Thom Hogan, designated wizard

This column is here to answer the questions you have about the Osborne 1 computer. Since this is the first issue, there are no reader questions to answer. I have, however, collected questions at conferences, seminars, user group meetings, and just hanging around Osborne dealers on Saturday afternoons, and we'll start this column by addressing the most persistent and tricky of these questions.

Q. Static electricity is a problem. How do I avoid zapping my Osborne 1 every time I walk across my carpeted floor?

A. The Osborne 1 has a metal plate which surrounds the keyboard. Static electricity normally usually jumps from your hand to this metal plate when you return to your Osborne after having walked across a carpeted surface.

The best answer is to make sure you never build up enough static electricity to cause problems. You could go out and buy expensive anti-static spray or an anti-static pad for your carpet, but this is usually unnecessary. Go to your grocery store and buy a bottle of Downy. Mix the Downy one part to two parts water, put in a spray bottle, and lightly spray your carpeted area. Static electricity varies with humidity—the lower the humidity, the more static. Thus, if you live in a dry climate, you might have to spray your carpet often; if you live in a moist climate, it is unlikely that static will often become a problem.

More permanent solutions exist. If you are careful to touch the metal plate with a 1 megaohm register prior to sitting down at the keyboard (i.e., ground yourself to the metal plate through a resistor), you probably won't experience problems. Another helpful idea for the experimenters among you is to make sure that the metal plate surrounding the keyboard is connected to the chassis ground inside the main Osborne 1 case. It seems that one of the contributors to the static problem is the fact that the metal plate is not grounded—indeed, it is isolated from the logic board.

Another solution is provided by the Static Leash (see New Products section).

Static is a particular problem if you travel with your Osborne 1. During Comdex last November, the MGM Grand Hotel had enough static to turn on most of their outside display lights—the static discharge that jumped from your room key to the doorknob was an exciting light show in itself. That much static discharge can damage your Osborne 1, however, so be prepared to be extra careful when traveling.

Q. Will airport X-ray machines damage my Osborne 1 or my diskettes?

A. As you can tell from the first questions, a portable computer immediately calls to mind situations that most stationary computers don't have to deal with.

Airport authorities insist that the x-ray machines at American airports do not damage information stored on recording media, such as diskettes. As far as I can ascertain, they are probably right. HOWEVER,

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The Wizard of Osborne

X-RAYS ARE NOT THE ONLY THREAT. Diskettes are vulnerable to magnetic fields, and especially prolonged or repeated exposure to magnetic fields. Most airport x-ray machines contain strong magnetic devices, and I had one airport security worker take my diskettes and set them on top of her video monitor (TVs emit strong magnetic fields). Therefore, my recommendation is that you always have your diskettes handchecked in this country.

As for the computer, as far as we can tell, there is nothing in the computer itself that should be affected by the x-ray machine. The whole thing is moot, anyway, as I've been asked to open up the computer almost every time I ran it through an x-ray machine; I now always ask to have it handchecked—it saves time!

Q. When will 80-column video be available?

A. We won't announce 80-column video until we begin shipping it to dealers.

What I CAN say is that, when the 80-column option becomes available, any Osborne 1 owner will be able to have their machine updated for a reasonable cost. I've seen and played with the option, and I'm even more eager than you are to get my Osborne 1 updated.

Q. What's the relationship between Osborne Computer Corporation and Osborne/McGraw-Hill?

A. They both started with Osborne.

Seriously, Adam Osborne, effective in April 1982, stepped down as president of Osborne/McGraw-Hill and no longer is involved with the running of that firm. Adam and Thom Hogan still write books for the firm because, even without Adam, Osborne/McGraw-Hill is one of the highest quality computer book publishers in existence.

Q. How can you claim the Osborne has an IEEE-488 interface when it doesn't?

A. If you look closely at the IEEE-488 port and the software we provide to run it, you'll find that it only works with device number zero. That's clearly not adequate, and it's our mistake. Our software department is working on a solution that will allow you to address any valid device number. For those users who must have this change, Osborne Computer Corporation will make arrangements to see that they get it. A fully addressable IEEE-488 port is part of the double density option.

At the same time, it should be noted that our documentation, in at least five different places, points out the differences between our implementation and the full IEEE-488 standard. One fellow wrote to us saying that all our literature claimed that we followed the IEEE-488 standard perfectly. We do not claim this; once the device number problem has been rectified, you should be able to use almost any IEEE-488 device on the Osborne 1, however.

Q. How do I hook a video display monitor up to the Osborne EXT.VIDEO connector?

A. Oh boy, a tough one!

The EXT.VIDEO connector does not provide the composite video signal required by most external video displays. Instead, the video, horizontal sync, and vertical sync signals are provided as TTL-level signals on the bottom edge of the connector (this is documented in our current User Guide). To connect a monitor that requires composite video to the Osborne 1 requires some additional circuitry.

Pages 130-132 of *The Cheap Video Cookbook* (by Don Lancaster, published by Howard Sams & Co.) suggests one method by which the three

signals can be combined into a composite video signal.

For those of you who are not too adept at putting together a circuit of their own, JMM Enterprises and Rocky Mountain Data both have video adapters that replace the plug Osborne provides. We'll have a full article on hooking your Osborne up to a standard television (color or black and white) in a future issue.

Q. What happened to the clock?

A. We didn't have time for it.

There never was a clock in the Osborne 1 computer, only some software that interrupted the computer constantly and updated some memory locations. Besides the obvious slowing of the machine to handle the clock software, the clock was very inaccurate; every time a disk access was made, the clock was disabled for a moment (a moment of unpredictable length, in fact).

It is quite possible to create an inaccurate clock of your own with the appropriate software, and we hope to print an article in the future on how to do so. If you must have an accurate clock, our suggestion would be to look at the Hayes Stack Clock. We're pretty sure that if enough demand crops up, you'll see other, lower cost hardware clocks made available for the Osborne 1. It is quite possible, for instance, to share a clock and printer off the serial port without having to unplug either.

Q. Why are your dealers so poor? They know nothing about the computer, and even if they did, they are too busy to help.

A. With over 100,000 Osborne owners by the end of the year, we have to insist that the first line of support be our dealers. If you cannot get satisfactory support from your dealer, write to us and describe fully what the problem you encountered was. We assure you that we'll look into the problem and respond.

Our initial dealer selection was done extremely carefully. At 1981's West Coast Computer Faire we were deluged with requests for dealerships; far more than we knew we could handle. Therefore, we looked carefully at location, experience, responsiveness, facilities and personnel in choosing our initial 94 dealers. We have continued our diligence since then. Every dealer is carefully scrutinized before being accepted as an Osborne dealer; we have been careful to train every dealer both in sales and in service before we ship them their first product; every dealer receives an Osborne Dealer Handbook, which, in addition to the usual sales promotions material, includes listings of all of our procedures and copies of all of our technical and service bulletins; a dealer newsletter is mailed once a month; and as if all that weren't enough, we put our initial emphasis in our support group on providing quick turnaround on all dealer questions.

Our contract with dealers is extremely specific about support. Unlike some others in the industry, we are not going to use the support issue as a method of discouraging mail order sales or discounting. Instead, we are serious about the support clauses in our dealer contracts. You more experienced owners may remember that the card that you sent in to us to request your free upgrade had a place to indicate your satisfaction with your dealer. Any dealer that had more than 10% negative comments was immediately put on probation and we sent staff to several of these dealers to further train their employees.

When we get complaints about dealer service, our first reaction, then, is to try to help that dealer get up to the level of support you demand. If the training fails to improve the situation, we terminate the dealership. So far, we've only terminated one dealership for this reason.

Why'd you stop building the 12" video display monitor? When will you come out with a hard disk drive for the Osborne 1?

A. We don't make peripherals; we make the best computer we can. We stopped making the monitor because we'd have to charge you $50 more than you can get the same monitor elsewhere for. We won't make a hard disk drive because it would cost you more than those from Corvus, XComp, and Trantor do.

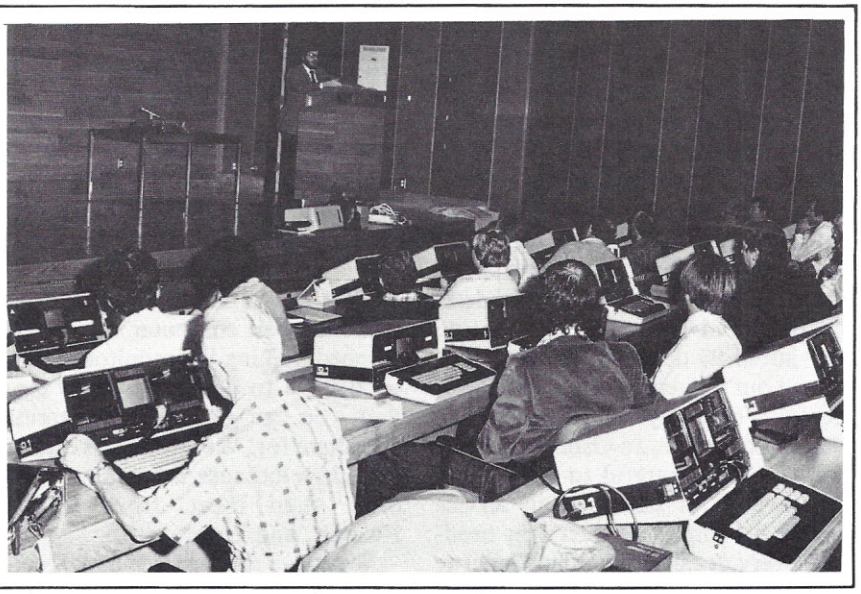
We have chosen to make computers and publish software because these are the two things we do best. Anyone that thinks they have to buy everything from the same manufacturer because that's the only thing that will work with it will find it very difficult finding Ford gas for the new Mustang they buy.

What will the Osborne 2 be like?

A. We suspect that the originator of this question works for Epson or Sony. Again, we're not in the business of preannouncing products, and we still haven't really satisfied the demand for our initial product.

Nevertheless, we can tell you this much: The Osborne 1 was a surprise to the microcomputer world; we positioned ourselves as an aggressive, inventive firm that leads the way for others, including those that are already established in the marketplace. Our products in the coming years (yes, years, we now have possession of a crystal ball) will continue to surprise our competitors. In fact, we'll go so far as to say that any rival microcomputer manufacturer that doesn't pay attention to what's happening at the low-end of the marketplace will find themselves growing very slowly, if at all.

□



First Osborne Group meeting at the DYSAN building in Santa Clara.

What is FOG?

by Frank Morton

FOG is an acronym for First Osborne Group, a group of persons with a common interest: CP/M in general and use of the Osborne microcomputer in particular. Beyond that, FOG, like its namesake, is difficult to pin down. FOG is constantly growing and is changing as it grows.

I placed an order for the new Osborne computer—sight unseen—before its prototype was shown at the 1981 West Coast Computer Faire. The decision was not really a difficult one, I was just about to purchase what had been the best buy available, a Heath H89 kit for $1695.00 which, if properly built, would have given me 16k bytes of RAM, one 5¼" disk drive, *no* software, and a chance to upgrade to CP/M capability for an additional $200.

So, in July I took possession of my own personal computer; something I had wanted, but could not afford, for almost 5 years. About the time I became aware of the large library of public access, non-proprietary software available to CP/M Users' Group, I started to download some of this software to diskettes for use on my Osborne. It soon became obvious that the task was better suited to a group of persons, since there were about 75 CP/M disks, each holding enough data for two to three Osborne format diskettes.

Consequently, I set out to emulate what Pico-Net (the local CP/M Users' Group) had done approximately a year earlier. With the help of Byron McKay, Kent Walker and Jeri Edwards, eighteen people gathered on the 30th of September for the first meeting of Osborne Users. I got out a newsletter in early October. With Jeri as Vice President, Kent as Disk Librarian, Byron as Technical Advisor, Leo Grandi, Treasurer and David Oates as Editor, we were on our way. We chose the name of our group at the second meeting (with FOGHORN as an obvious name for our newsletter). Lynn Hagen from OCC was our guest speaker at the second meeting. He brought Maureen Harris, OCC customer service representative, and Roger Chapman, an OCC software engineer, to help answer questions.

In December we moved to the auditorium in the new DYSAN building with its carpeted, tiered seating for 100, and electrical outlets at every position. December was also the first time we had Thom Hogan as a guest speaker, resulting in a packed house! Since then we have continued to expand, with splinter groups forming in San Francisco (Lee Felsenstein was their inaugural guest speaker), the East Bay, the Monterey area and Sacramento. Santa Rosa is also now getting started. We had a table at the 1982 West Coast Computer Faire. Our March meeting was held at the Faire with John Gaudio, Jim Morefield, Thom Hogan, and Dr. Adam Osborne speaking. With the volunteer help of Lori Small and Steve Beckerman of San Francisco our FOGHORN is now being phototypeset (with an assist from their Osborne 1).

An *InfoWorld* article on users groups and a plug in an Osborne dealer newsletter have helped us grow rapidly. On the 1st of May we had over 500 members in over 40 states and 5 other countries. By the time you read this we should have completed our incorporation as a non-profit, public benefit corporation, with all members having voting rights. All effort to date has been voluntary, with almost all non-FOGHORN expenses coming from the pockets of the participating officers.

The average FOG member is one of two types: one has experience with computers and has bought his or her machine because of its exceptional value. This kind of member is excited and looks to us for the latest (and generally

technical) information. The other kind of member is new to computing and finds his machine (and software) to be a good introduction to computing in general. *Portable Companion* will help both types of FOG members, and all Osborne users in general. Like the rest of you, I have been anxiously waiting for it to arrive. It may have a profound effect on FOG, the FOGHORN and the way FOG operates. Only time will tell what this effect will be, but I am certain the users will benefit in any case.

The basic idea of a few people trying to build a library of diskettes for their own use has evolved with our growth to what I now believe to be a self-help organization devoted to communication and service to the individual members of the FOG organization (within the capabilities of the help which is volunteered by the members).

From a local outlook FOG has shifted to a much larger concern by virtue of the continued enthusiasm of members literally everywhere. At long last I found a volunteer Corresponding Secretary (Gale Rhoades, you may have met her at the Faire). In addition to helping keep track of membership, she is single-handedly getting copies of our approximately 30 diskette library placed in strategic locations to make it easier for FOG members everywhere to gain access. We now have a committee of librarians to help guide the growth of the library. Submissions to the library are desired and solicited, BUT all contents and submission MUST be only NON-COMMERCIAL, NON-PROPRIETARY software.

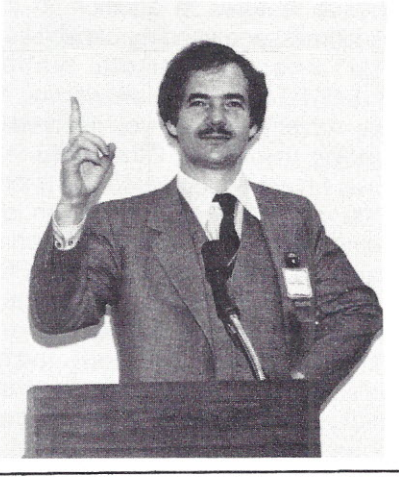
In its attempt to better serve the growing base of members, FOG has designated contacts in many areas to serve as focal points, and possible rally points for the formation of other local FOG chapters. In addition, FOG is trying to learn of and contact other organized Osborne users' groups. FOG has the good fortune to be located near the OCC Headquarters, and to be in contact with the OCC User Group liaison personnel. FOG will gladly work with any and all other users' groups for the purpose of forming an organization of information networking for dissemination of information and for representation of users' interests to OCC.

So, what is FOG? It is whatever we want it to be. It is a group of fascinating people from all sorts of professional backgrounds with a common interest in microcomputing and with special emphasis on use of Osborne computers. (Do I know something you don't know? NO, I just surmise that there will eventually be even more exciting products coming from OCC). We, the officers of FOG, invite you to let us know what you want FOG to be. We, the members of FOG, invite you to join us and work with us, to help us train the Osborne novices so they can help train others, and to share with us what you think an organization like FOG is capable of becoming.

First Osborne Group
P.O. Box 11683-A
Palo Alto, CA 94306

□

The first official Osborne users meeting. Frank Morton is the smiling fellow with the mustache in the back row.



Adam Osborne makes a point.

The Modem Chronicles

by Mike Mehr

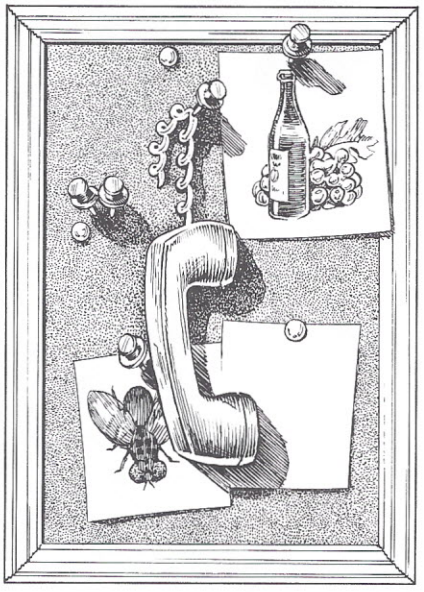
Hi! This month I thought I'd start off with some information about what you can expect user group bulletin boards to do for you. I'll also include some tips for those of you who may be first-time users of these systems. You're spending your hard-earned bucks on these phone calls, so you might as well use your time wisely. Finally, I'll include some tips for using these RCPM [Remote CP/M—*ed.*] systems to grab someone else's hard work over the phone lines.

First, the fringe benefits.

There are many types of BBS's (Bulletin Board Systems) available. The only ones I'm going to be concerned with are the ones that we hobbyists can call with minimum hassle and no money involved except the phone call. (I'll tackle other kinds at some later time.)

There are several kinds of personal-access BBS's, which differ mainly in how you use them; that is, in the kind of software their SYSOPS (System Operators) are running. The ones labeled PMS (for Personal Message System) offer articles and special features in addition to the usual message sending capabilities. The one in Portola Valley (415-851-3453) even allows you to play Adventure when you get tired of reading messages. Other PMS features I have encountered are a long review of California wines, an ongoing report on the Medfly campaign, a listing of available BBS numbers around the nation, and program-swapping for Apples and TRS-80 systems (boo! hiss!). The articles are updated fairly regularly and always contain valuable information.

An excellent article on BBS systems in general and PMS and RCPM systems in particular can be found in *S-100 Microsystems* magazine for May/June, 1981, pp. 20-28 titled "The Computer Communications Explosion," by Fred Lepow. It includes partially outdated phone number lists and descriptions of commands available on PMS systems, among other information. Interestingly enough, at least two-thirds of the article appears in electronic form on the various BBS systems, too, and is easily available to BBS users like us.



So, what's an RCPM system, you say? RCPM stands for "Remote CP/M" and that's what you get. Calling them up and possibly entering an extra command gives you access to the remote computer as if it were your own. You see the "A > " prompt (or sometimes "A0 > " on a multi-user (MP/M system) and you can enter commands like "DIR*.*" to see what's on the current disk or "TYPE FOO.ASM" to see the contents of an ASCII program file. Commands unique to RCPM systems include "XMODEM S FOO.OBJ," to send a program to your computer (if you have MODEM7 on your end for receiving it); "FILE-FIND *.*", for listing all programs on the system across user and disk boundaries; and "TYPESQ FOO.AQM", for typing "squeezed" files, which are files that hve been specially compressed to save space on the RCPM disk.

Now, I'm sure this raises a million questions. I'd like to address naming conventions first. File extensions (you know, those funny three letters after the "." in the file name) are used mainly to tell what type of program is in the file you're looking at. RCPM systems have special extensions that are commonly used (I'll use FOO as an arbitrary filename):

.ASC is used for an MBASIC program file that has line numbers that are in ASCII so you can print it without running MBASIC.

.BAS is used for MBASIC files that contain their line numbers in a compressed binary format, making them hard to read using "TYPE" but taking less space. It is also used for CBASIC and BASIC-E compiler source files, which you can read with the "TYPE" command.

.INT is used for CBASIC and BASIC-E compiled programs are run using CRUN and ERUN runtime executive programs.

.OBJ is used for .COM files that can be executed on your system only. Transfer them into your computer with the name FOO.COM on your end and they are ready to execute without using BASIC or anything else (as long as they can run on your hardware). The name changing was done to keep people from tying up the remote system playing games or using programs indiscriminately.

.COM is used for programs that can be run on either the remote computer or yours. You can only transfer them using XMODEM and MODEM7 which also check each sector for validity as it is transferred.

.ALG

.C

.PAS

These and many others are used for source files for various high-level language compilers like Algol-M,

BDS C, or Pascal-M. You can't use these unless you get the appropriate compiler program.

.ASM is used for source listings for the CP/M 8080 assembler ASM. The assembled versions of these are usually .OBJ files. The source is usually provided for those who want to make modifications to the programs.

.DOC is used for program documentation ASCII text files. These can be read with "TYPE".

NOTE: Any of the preceding files that contain only ASCII text can be compressed using the SQ program and its variations. Resulting files have the second letter of the extension replaced by a "Q". These files can be typed with the TYPESQ program and be unsqueezed with USQ and its variations. For example:

```
.ASC --> .AQC        .DOC --> .DQC
.C   --> .CQ         .ALG --> .AQG
.BAS --> .BQS        .PAS --> .PQS
.ASM --> .AQM
```

Now, how do you go about getting some of these programs that look so enticing? Well, if they're ASCII text files, you can capture them with MODEM7's **"T fn.ft"** mode using ^Y and the "TYPE" or "TYPESQ" commands on the other computer. This is okay if you're not worried about errors due to noise on the phone lines. Otherwise, you might want to use the XMODEM command on the other computer and the **"R Fn.Ft"** mode of MODEM 7 on yours. For squeezed files, you can grab the USQ.OBJ file, rename it USQ.COM, and use it to unsqueeze the file after you've received it using MODEM7.

Let's take a look at both scenarios. Say that you want to get two programs, USQ.OBJ, to unsqueeze other files, and SQ/USQ.DQC, the squeezed documentation file for using SQ and USQ. For the ASCII transfer of the .DQC file, there are two choices. First, let's try it using TYPESQ:

A> (press ^E to get MODEM7's attention)
T B:SQ/USQ.DOC (press ^Y to start "record" mode)
TYPESQ SQ/USQ.DQC
:: (file gets typed and captured here)
:A (press ^Y and ^E here)
WRT
T (now you've got the .DOC file!)
XMODEM Vers. X.x
FILE OPEN-SIZE = 38 SECTORS
(now you have about 90 sec. to type: ^E and)
RT B:USQ.COM (this renames the files and also allows you to return to **T** mode)
AWAITING #01
+ + + TIMEOUT 00 + + + (this always happens!)
AWAITING #01
AWAITING #02
(etc. until all 38 = 26H sectors are in)
+ + TRANSFER COMPLETE + +
(there! now you have both files)
(press RETURN)
A> (see? you're still on the remote system!)

Now, let's see what alternate plan "B" looks like. Type "USQ SQ/USQ.DQC" and create the unsqueezed version. Make sure you have enough room on your disk for it.

After you're done with your transfers, typing "BYE" to the remote computer will log you off gracefully. Don't forget to turn off your modem—you've paid enough as it is!

□

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Submit Control Characters

by Howie Starkey

NOTE: ALWAYS MAKE CHANGES IN PROGRAM COPIES—NEVER ORIGINAL DISKS!

Several inquiries have been made regarding the use of control characters in SUBMIT files. Digital Research's standard SUBMIT program does not allow control characters to be used. However, a change in your SUBMIT program allows use of some control characters when entered as follows:

^ Z (Caret plus Z) = CONTROL-Z

To alter SUBMIT:

1. Place a copy of your CP/M Utility diskette in drive A.
2. Type: **DDT SUBMIT.COM,** then press RETURN.
3. Type: **R** (press RETURN). The computer displays:

```
DDT VER 2.2

NEXT   PC

0700  0100
```

4. TYPE: **L441** (Press RETURN). The computer displays:

```
0441  SUI  61

0443  STA  0E75

0446  MOV  C,A

0447  MVI  A,19

0449  CMP  C

044A  JNC  0456

044D  LXI  D,019D

0450  CALL 02A7
```

continued next page

Using Your Special Function Keys on the Osborne 1

by R. Hunter Morey

1. Follow the instructions on pages 2 and 3 of the OSBORNE 1 *USER'S GUIDE ADDENDUM,* supplied with the keyboard upgrades.
2. Use the SETUP.COM program on your CP/M Master diskette also supplied on the UPGRADE DISKETTE 1 (CP/M).
3. Decide what functions, keystrokes, or things that you do that are so repetitious and that you do so often, that it would be handy to be able to press one key to do them instead.
   Here are the functions I am now using: (J. Gaudio uses and suggests others)

WordStar Function Keys	CP/M Function Keys
0: LB:<CR>	0: B:<CR>
1: A:WS<CR> LB:<CR>	1: XDIR A:<CR>
2: ^OR50<CR>	2: XDIR B:<CR>
3: ^OR65<CR>	3: COPY<CR>
4: ^KS^QP	4: LIST<CR>
5: ^KS^QP^KP^R<ESC>	5: PIP<CR>
6: ^KDP^R<ESC>	6: SETUP<CR>
7: ^QQ^B	7: SYSGEN<CR>
8: .MT 0<CR> .MB 0<CR> .PL	8: WASH<CR>
9: LA:<CR>	9: A:<CR>

5. Here is a function I used before I implemented Jim Woolley's WordStar March FOGHORN patches:

```
DTEMP<CR> ^OJ^OH^JH2^OT^V^RQLB:<CR>
```

6. Here are some additional patches I used to get my WordStar to start the way I wanted it:

```
ITHELP:    02 Sets help level to 2 instead of 3

INITWF:+4  00 Sets hyphen-help OFF

038B:      00 Sets ruler line OFF

WID:       80 Sets screen for 128 columns
```

DON'T use Install's Printer Option C for Epsons, use A.

7. I fold over and tuck-in these two label strips above my keys.

WORD-STAR ON B:	50 Col RIGHT MARGIN	65 Col RIGHT MARGIN	SAVE & RETURN	SAVE PRINT RETURN	SAVE & PRINT	REFORM ENTIRE FILE	.MT 0 .MB 0 .PL	LOG DRIVE A:	LOG DRIVE B:
A:WS<CR>	^OR50<	^OR65<C	^KS^QP	^KS_PKP	^KDP^R	^QQ^B		LA:<CR>	LB:<CR>

<—FOLD

1	2	3	4	5	6	7	8	9	0

XDIR	XDIR	COPY	LIST	PIP	SETUP	SYSGEN	WASH	LOG DRIVE A:	LOG DRIVE B:

<—FOLD

1	2	3	4	5	6	7	8	9	0

□

```
0452   JMP   045B

0456   LDA   0B70

0459   INR   A
```

5. TYPE: **S442** (press RETURN). The computer displays:

```
S442   61   __
```

6. Do not move curser—type: **41** (press RETURN).
7. Type: . (period) (press RETURN).
8. Type: Control-C.
9. Type: **SAVE 6 SUBMIT.COM** (press RETURN).
10. To check your work, REPEAT steps 2 thru 4. With the repeat of step 4 the computer should display:

```
0441   SUI   41
```

and NO other changes.

You should now be able to use CONTROL characters in SUBMIT files. This patch is based upon information from Digital Research Inc.

□

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Getting Your Printer Up!

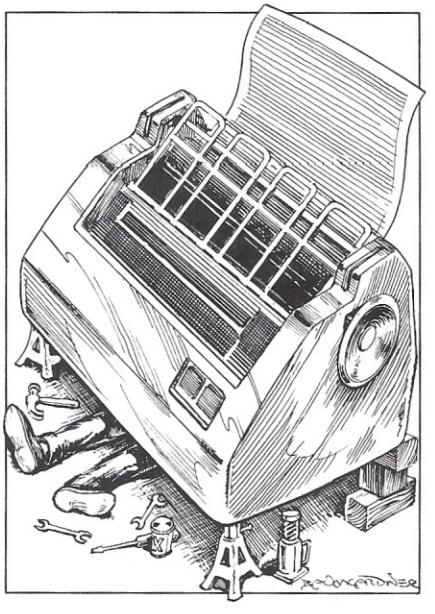
by Frank Morton

Many calls have been received regarding getting your printer working with your Osborne 1. I like to take it in a step-by-step sequence. The first step is to be sure that the printer works by itself! Most printers have a self-test mode. On an Epson MX80 (I'll use it for examples, since I am most familiar with my own printer) you hold the LF button down when turning the power ON. When it prints out the pattern of characters, at least you know it can print!

For the following discussion to be valid you must have a machine with an upgraded configuration; i.e. your serial number is higher than 3500, or your machine has been modified at the dealer location with an upgrade kit such that you now have a total of 5 original diskettes of software. If this is not true, the following will not apply. Next, I recommend that you put the CP/M System diskette in Drive A and a WordStar diskette in Drive B; both should be back-up copies without write protect tabs. When the CP/M prompt A> shows, type **SETUP** <**cr**>, where <**cr**> denotes the RETURN key.

First, you want to configure Drive A. When the "Configuration Program" menu appears, the most important item for this discussion is item "A" (the Printer). When you you press **A**, a new menu appears. After pressing one of the five keys A to E (D for Epson with a parallel hook-up), an "X" will return you to the main menu where you will be asked "DESTINATION (A,B, or X to exit)". At this point you want to use "A" to modify the System tracks on the CP/M diskette in Drive A. You will observe the red light on Drive A indicating that the modifications are being written to that diskette.

You have now modified the diskette, **BUT** the Random Access Memory in your computer has not changed from what you originally read in from the System diskette. To try out your changes, YOU MUST push RESET at this time and then RETURN; this loads the modified System into the computer. Now you are ready to see if your CP/M "talks" to the printer. With the



printer hooked-up to the O1, its power turned ON, and the On-Line indicator telling you that everything is "GO", you need to send a ^P from the O1 to alert the Printer. ^P is used to indicate holding down the control key while striking the "P" key. When you do a ^P, nothing happens! Nothing is shown on the screen, and nothing happens at the printer! Worse yet, ^P is also used to turn the printer OFF! Consequently, if you held the "P" key too long you may have turned it ON & OFF again!!! Assuming that you pressed the "P" quickly, a RETURN should get you an A> on both the screen and the printer. If you do a **DIR** <**cr**> at this point, you should be printing a directory, as well as viewing it on the screen.

So, we see that SETUP connects the CP/M software to the printer. At this point, the next step is to configure the system tracks on the WordStar diskette. You can use SYSGEN to copy the modified system tracks to computer memory, then out to WordStar, or any other diskette you use with this printer. The important point is that if the System tracks are not correctly modified, CP/M cannot talk to the Printer!! . □

Ans MUMPS Available For The Osborne 1

As announced at the November and December FOG meetings, the 8080 MicroMUMPS system is available for the Osborne 1 computer. This system was developed by Dr. Richard Walters of the Department of Community Medicine at U.C. Davis. Written in 8080 Assembly Language, the system runs under CP/M, and provides a full implementation of the ANS MUMPS language in a single-user version.

For those who are unfamiliar with MUMPS, here is a brief capsule description:

MUMPS is an acronym for (M)assachusetts General Hospital (U)tility (M)ulti-(P)rogramming (S)ystem. It was developed during the 1960's and early 70's jointly with the MITRE Corporation and Digital Equipment Company. MUMPS was adpoted by the American National Standards Institute in 1977. Originally designed for DEC computers, it has now been implemented for virtually all major computers, and many major systems have been developed in MUMPS, both in the medical field and in business.

The system is in the public domain, and is available at cost, either through Dr. Walters or the undersigned. Cost, including the price of the two disks presently available, is $33.00 for a one-time copy of the system in its present form, or $93.00 for a one-year subscription to include future system updates and utilities as they are released. The next system update is expected in early 1982.

The present version consists of three .COM files containing the operating system and initializing programs, and several utilities and demonstration programs, including an editor, a global dump routine, and a program cross-indexer.

These programs were originally downloaded to Osborne disks at the Osborne plant through the courtesy of Adam Osborne and Ken Jacobsen, Director of Software Development. There are no immediate plans to offer this system directly through Osborne.

Documentation included with the system includes an Installation Manual, User's Manual, Utilities documentation, and a Validation Dialog.

There is a large and active MUMPS Users Group, based in Washington, D.C. Numerous publications about the language are available from this group, including tutorials.

The main features of the language include many built-in string-handling functions and a balanced-tree data structure which allows dynamic allocation of storage space—i.e. it is not necessary to declare variable types or to dimension arrays. Disk files are called global variables or arrays, and are address using the prefix ^ before the variable name. Subscripts include numeric and string values, and string subscripts are automatically stored in ASCII collating sequence (i.e. alphabetically). This type of data structure is ideally suited to data involving many missing values, as no storage space is needed for absent data. All MUMPS commands maybe abbreviated to 1 or 2 letters or symbols, and multiple statements may occur on a line, so MUMPS code can be very compact. This feature renders interpretation of someone elses programs somewhat difficult, unless heavy commenting is used, but also allows a great deal to be accomplished in a small space.

MUMPS is better-suited to free text or encoded data than to numeric processing, although basic arithmetic operators are included. Also included are standard logical operators. String and pattern-matching operators make writing of interactive programs with input error-checking quite simple.

Another interesting feature is the use of indirection, making it possible to execute MUMPS commands entered as data or stored as variables, thus enabling "self-modifying" programs to be written.

Those interested in learning more about MUMPS, or in obtaining the system may contact:

Peter Fleming, M.D.
San Francisco,CA

Inquiries about FOG should be sent to:

Frank Morton
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□

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Special Special Function Keys

by Bob Briggs

In reply to a question at the February 18th FOG meeting on how to program the special function keys (SFK's) with characters not accessible from the Osborne keyboard, Thom Hogan suggested that this could be done with the CP/M tool, DDT. His suggestion works. To save you some time (like maybe 20 minutes or so) if you haven't already done it yourself, here's what I found.

I'll give a nutshell version and a wordy version. In a nutshell, the SFK codes are stored in RAM at E592 hex. Now for the wordy version.

First some motivation and disclaimer. I wanted a "HOME" key on my Osborne. Most terminals have this key, which sends the cursor to the upper left corner of the screen. I have a program that occasionally directs me to "Press the HOME key." So I had to repeatedly use the up arrow and left arrow keys to move the cursor to home position. Wouldn't it be nice to use the SETUP

WORDSTAR WITH EPSON

by Jim Woolley

If you have an Epson printer, you should consider patching WordStar to make use of the special printing features of the Epson. This article describes a step-by-step procedure for installing the necessary patches. The procedure is designed for an Epson MX-80, but should be applicable to an MX-100 as well. It is very easy to do, so don't be intimidated if you're a novice.

Patching WordStar is described in Section 14.4 of the MicroPro WordStar User's Guide. Use the following recipe:

1. Put a copy of your WordStar diskette in drive A. Put a diskette containing INSTALL.COM (probably your CP/M Utility diskette) in drive B. After the CP/M prompt, execute INSTALL using

   ```
   A>B:INSTALL
   ```

2. Answer the first question regarding "normal first-time INSTALLation" with N, for NO.

3. Refer to Section 14.4.5 of the User's Guide for INSTALL's next question. Answer with option **D** to modify and replace your existing WS.COM file. When asked for WordStar filename, answer **A:WS.COM.**

4. INSTALL then asks about your terminal, printer, communications protocol, and printer driver. Answer **U,** for UNCHANGED, AND **Y,** for YES, to each.

5. The next question asks if modifications are complete. Answer **N** for NO in order to make additional patches. Section 14.4.6 of the User's

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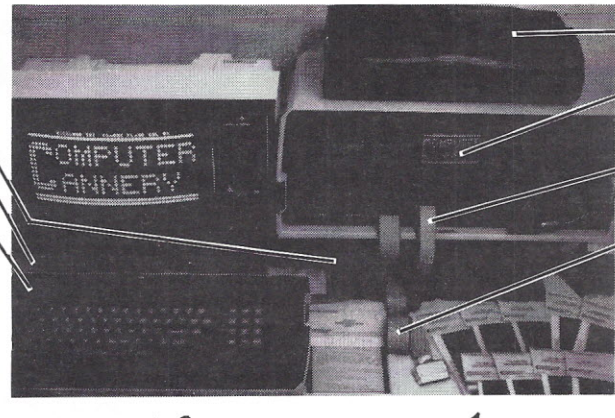

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now, if someone has an idea for the nose...

COMPUTER CANNERY

Guide describes how to make patches. Refer to pages D-24 to see where patches are made. Section 10 identifies print control characters indicated by ^ in the following text.

6. Patch PSCR: = 01 for more efficient operation of the Epson. My version of INSTALL did not recognize PSCR:, so I referenced location 06A1 instead.
7. To enable use of subscript (^V) and superscript (^T), make the following patches:

```
PSCRLF:    = 03          PSHALF:    = 02
PSCRLF:+3  = 0A          PSHALF:+1  = 0D
                         PSHALF:+2  = 0A
```

Additional patches to PSINIT: and PSFINI: in step 11 provides half-line spacing. Skip this step for more efficient printing if subscripts and superscripts are not important.

8. To use alternate character pitch (^A) for Epson condensed mode (132 char/line) and standard pitch (^N) for normal mode (80 char/line), patch the following:

```
PALT:      = 01          PSTD:      = 01
PALT:+1    = 0F          PSTD:+1    = 12
```

program to make a SFK for this. Yes. But as far as I know, there is no way to press a key or combination of keys on the Osborne keyboard to enter the code for the HOME key in the SETUP program. If there were, of course, I wouldn't need to use a SFK.

Another SFK use is configuring my Comprint 912 printer. It insists on paginating unless you send it a control code. This is no problem with WordStar because I configured it to send the control code automatically as part of its printer initialization capability. But for CP/M and some other programs, a SFK would be handy. It turns out that the code for turning pagination OFF is the HOME key, which is ASCII RS (30 decimal, 1E hex).

Now for the disclaimer. I don't know anything about the program that causes the SFK's to work other than what you read here. If you need to try something more complicated, you're on your own.

Next, some review for those not very familiar with the Osborne SFK's. Through the use of the SETUP Program on your CP/M Master diskette, you can program keys 0 through 9 to represent any character

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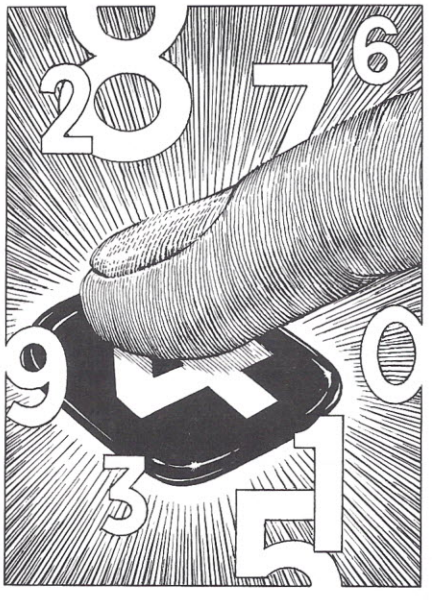
or string of characters, up to 96 total for all the SFK's combined. To use these keys as SFK's, first hold down the control key and then press one of the keys 0 through 9. When you take delivery of your Osborne these are programmed to represent their face value (i.e., SFK 1 represents 1, and so on). After using WordStar for awhile you probably will want to program one of the SFK's to represent **b:** <**CR**> to facilitate changing the logged disk drive, or **^OR52** <**CR**> to get a 52 column screen.

The Osborne people left a little confusion in the SETUP program. When you run it the program first asks which diskette you want to configure



(A or B). It takes your answer (A or B) and reads the existing configuration stored on that disk, then displays it on the selection menu. In other words, it really should have asked which diskette's configuration (A or B) you want displayed.

There is an area in the computer's volatile memory (RAM) that stores the characters that each SFK represents. This area is loaded from diskette each time you press RETURN after pressing RESET or turning power ON (i.e., after a cold start, or cold boot).

9. The four user functions enable setting and cancelling Epson emphasized and expanded modes:

```
^Q = Sets emphasized mode.

^W = Cancels emphasized mode.

^E = Sets expanded mode.

^R = Cancels expanded mode.
```

Use of these functions is described after step 11. Patches are

```
USR1:    = 02          USR2:    = 02

USR1:+1 = 1B           USR2:+1 = 1B

USR1:+2 = 45           USR2:+2 = 46

USR3:    = 01          USR4:    = 01

USR3:+1 = 0B           USR4:+1 = 14
```

10. I use the change ribbon color toggle (^ Y) to set or cancel Epson emphasized-double ("wallbanger") mode. Patch

```
RIBBON:    = 04        RIBOFF:    = 04

RIBBON:+1 = 1B         RIBOFF:+1 = 0B

RIBBON:+2 = 45         RIBOFF:+2 = 46

RIBBON:+3 = 1B         RIBOFF:+3 = 1B

RIBBON:+4 = 47         RIBOFF:+4 = 48
```

Emphasized-double mode may also be set by ^Q^D. If you have Graftrax, you may wish to use ^Y for italics.

11. For initializing and restoring the Epson print modes, patch PSINIT: and PSFINI:. Since my version of INSTALL did not recognize PSFINI:, I have referenced everything to PSINIT:

```
PSINIT:     = 0C        PSINIT:+11 = 03

PSINIT:+12 = 12         PSINIT:+2  = 12

PSINIT:+13 = 14         PSINIT:+3  = 14
```

```
PSINIT:+14 = 1B          PSINIT:+4  = 1B
PSINIT:+5  = 46          PSINIT:+15 = 46
PSINIT:+6  = 1B          PSINIT:+16 = 1B
PSINIT:+7  = 48          PSINIT:+17 = 48
PSINIT:+8  = 1B          PSINIT:+18 = 1B
PSINIT:+9  = 41          PSINIT:+19 = 41
PSINIT:+A  = 06          PSINIT:+1A = 0C
PSINIT:+B  = 1B          PSINIT:+1B = 1B
PSINIT:+C  = 32          PSINIT:+1C = 32
```

If subscript and superscript are not important and you have skipped step 7, then patch

```
PSINIT:     = 07         PSINIT:+11 = 06
```

and skip the patches indicated for PSINIT:+8 thru +C and for PSINIT:+18 thru +1C.

These are all of the patches required to use the special Epson printer features. Print-control characters described in Table 10-1 of the WordStar

The SETUP program itself does not directly affect this area of memory. To change this area, you must perform a cold boot or use some method of changing the contents of RAM, such as is provided by the Set command of the DDT utility program, or the POKE command in BASIC.

I'll describe how to use DDT to program a special SFK with an example. Suppose you want to set up SFK 1 to be the HOME Key. In other words, when control-1 is pressed, ASCII code 1E hex is output.

First, decide which SFK you want to program and what characters you want it to represent. In this example I want SFK 1 to represent ASCII RS (code 1E hex). Use the SETUP program to make sure SFK 1 has the same number of characters that you want it to have when you are finished. In this example, I want it to have one character. I'll setup SFK 1 to represent the character 1.

Next, exit the SETUP program by saving the configuration to a diskette that is not write protected, then perform a cold boot (RESET and RETURN) with this diskette in drive A. This procedure causes the SFK's

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to take on the values entered in the SETUP program.

If you do not have the CP/M prompt at this point, exit whatever program you are in so that you get the CP/M prompt (A >). Now type Control-1 to examine the code stored in SFK 1. Then press RETURN to get the CP/M prompt again.

Next remove the diskette in drive A and insert the diskette containing DDT (probably the CP/M Utility diskette. Type **DDT** <**CR**> to run the DDT program. (<CR> stands for Carriage Return and means press the RETURN key). In response to the dash prompt (-) type **DE580** <**CR**>**.** The current values of the SFK's are displayed starting at E592 after the word AUTOST. Unless you have used the SETUP program to change them, these values are 01232456789.

Type **SE593** <**CR**> to examine the code for SFK 1. The display shows:

```
E593 31
```

where 31 is the ASCII hexadecimal code for 1 (see Table 8-1 in the Osborne 1 User's Guide, looseleaf version). This assumes that SFK 1 has been programmed with the character 1.

Next type **1E** <**CR**> to change the code from 231 hex to 1E hex. Then type **.** <**CR**> (that's a period followed by a carriage return) to exit the Set command.

Then type**^1** <**CR** **.** The display shows:

```
-^ ^
?
-
```

The ^ ^ shows that the new code for SFK 1 is 1E hex. It would have been nice if you could just type control SHIFT 6 to get this code, but the Osborne was not designed that way.

Now we use the SETUP program to store this SFK on diskette. Type Control-C to exit DDT. Remove the diskette containing DDT and insert the diskette containing SETUP into

User's Guide will enable these features as follows:

^Y = Emphasized-double print toggle. Do not use twice in the same line, as the second cancels the feature for the entire line. Do not use with ^A.

^A = Alternate pitch (132 char/line). Do not use in the same line as ^N, since ^N cancels the feature for the entire line. Do not use with ^Y or ^Q, as these temporarily suspend the effect of A.

^N = Standard pitch (80 char/line). This is the default mode. Do not use in the same line as ^A.

^Q = Set emphasized mode. Do not use with ^A.

^W = Cancel emphasized mode. This is the default mode. Do not use in the same line as ^Q, since ^W cancels the feature for the entire line.

^E = Set expanded pitch (40 char/line if used with standard pitch ^N, or 66 char/line if used with alternate pitch ^A). This mode is automatically cancelled at the end of the line. It may be cancelled in mid-line by use of ^R.

^R = Cancel expanded pitch. This is the default mode.

All of the other print control characters function as described in Table 10-1. Subscript and superscript toggles ^V and ^T make use of half-line spacing if the patches described in steps 7 and 11 are utilized.

The above description includes some information which is not clearly stated in the Epson User's Manual. Namely, if in the same line you set and cancel condensed, emphasized, or emphasized-double mode, the overall effect is to cancel each. Also, if you set emphasized or emphasized-double while in the condensed (132 char/line) mode, the effect is to temporarily suspend condensed mode; when emphasized or emphasized-double is cancelled, condensed mode is resumed.

Additional patches may be used to customize the WordStar sign-on message as described in Section 15.3 of the User's Guide. To make the printer description read "Epson MX-80 Printer", patch the following hex representation of ASCII characters beginning at location 01B4: 45, 70, 73, 6F, 6E, 20, 4D, 58, 2D, 38, 30, 20, 50, 72, 69, 6E, 74, 65, 72, 20, 20. I also made the terminal description read "Woolley's Osborne 1" by patches beginning at location 0190: 57, 6F, 6F, 6C, 6C, 65, 79, 27, 73, 20, 4F, 73, 62, 6F, 72, 6E, 65, 20, 31. You can put in your own name using locations 0190 thru 01B0 and the ASCII codes given in Table 8-1 of the Osborne User's Guide. For consistent capitalization in the other sign-on messages, I patched 01DB = 43, 01EA = 50, 020D = 44.

While you're at it, you may wish to install additional modifications described in Section 15.4 of the WordStar User's Guide. To make WordStar work more like a typewriter, I made the following patches:

ITITOG:	= 00, to make WordStar start with INSERT OFF.
INITWF: + 1	= 00, to start with JUSTIFICATION OFF.
ITPOPN:	= FF, to omit page numbers by default. Further changes made were:
WID:	= 78, for 120 column wide terminal screen (p.D-4).
DEL3:	= 23, for longer delay before a menu (p.D-16).

There is a company in San Jose which sells a program to make these Epson patches to WordStar for you. Their price is $85.00. By following the simple recipe given in this article, you can do the job yourself. □

drive A. Type **SETUP** <**CR**> to load the program, and then type **A** when it asks you which disk to configure. Again, this first question determines which diskette is read for display on the SETUP menu.

When the menu comes up, type **E** for SFK and then **1** for SFK 1. Press **^1** then **ESC** twice. The menu will now show ^ ^ for SFK 1.

To make the contents of this menu effective we must store it on diskette and then perform a cold boot with this diskette.

Press **X** to return to the main menu. Put the diskette that you want configured into drive A and press **A**. Be sure the diskette is not write protected. Now, when you do a cold boot with this diskette the SFK 1 acts like a HOME key. Try it when you have the CP/M prompt. The cursor will fly to the HOME position and then CP/M gives you a **?** because it does not understand this command.

I recommend you use DDT to examine the E592 memory area for various SFK setups. You will notice, for example, that SFK's with multiple ASCII codes occupy adjacent memory location. The SFK program somehow knows how many characters are in each SFK. *(This is kept by a separate table in memory—TH)*

I do not know if all versions of the Osborne store the SFK's at location E592 hex. It's easy enough to find them. I load SFK 2 with a few dozen / / / / / / / / / / marks, then use DDT to examine memory with the command **D100,F000** <**CR**> . After staring at the screen a few minutes the / / / / / / / / / marks roll by. Pressing any key stops the display.

Thus ends the wordy version of how to program special SFK's. □

Osborne User Groups

Osborne user groups seem to be popping up everywhere. It started right here in Silicon Gulch with the First Osborne Group (now with four chapters and hundreds of members). Indeed, FOG has progressed so far in its half year of existence that it now features typeset newsletters, an extensive set of user group software, and jam-packed, enthusiastic meetings in four locations around the California Bay Area.

User groups provide a means of getting together with other Osborne 1 users and sharing information, programs that you write, and even allow you to try products that you are considering and that others may already have.

Osborne Computer Corporation has attempted to provide information to the leaders of the many users groups that might not have otherwise been made generally available to Osborne 1 owners.

Look through the addresses below for the user group nearest you. Most of the group leaders have volunteered their time and hold full-time jobs "on the side." Therefore, we have not published phone numbers— we suggest that you drop the local group a note asking for information about their next meeting and let the group leader contact you at their convenience.

Don Slaughter
The Northwest Osborne Users' Group
19705 1st Avenue South
Seattle, WA 98148

continued on page 67

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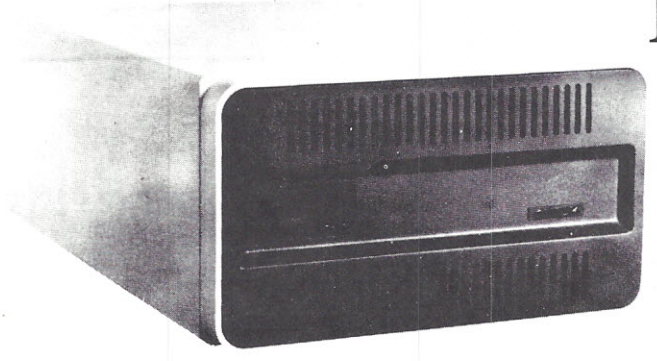

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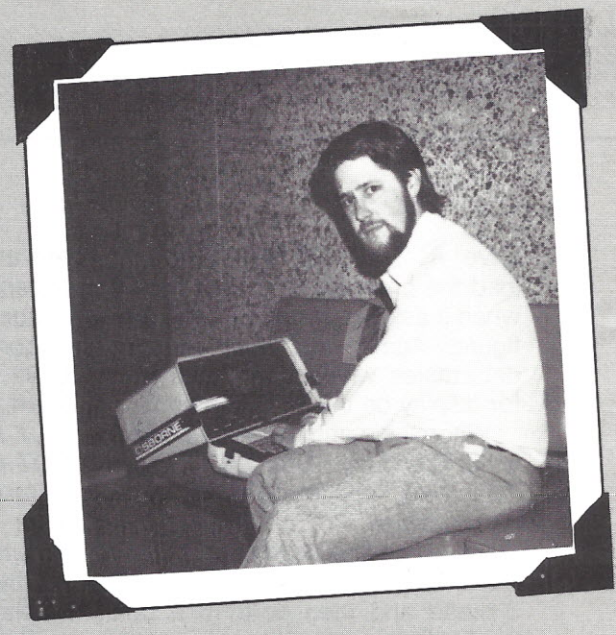
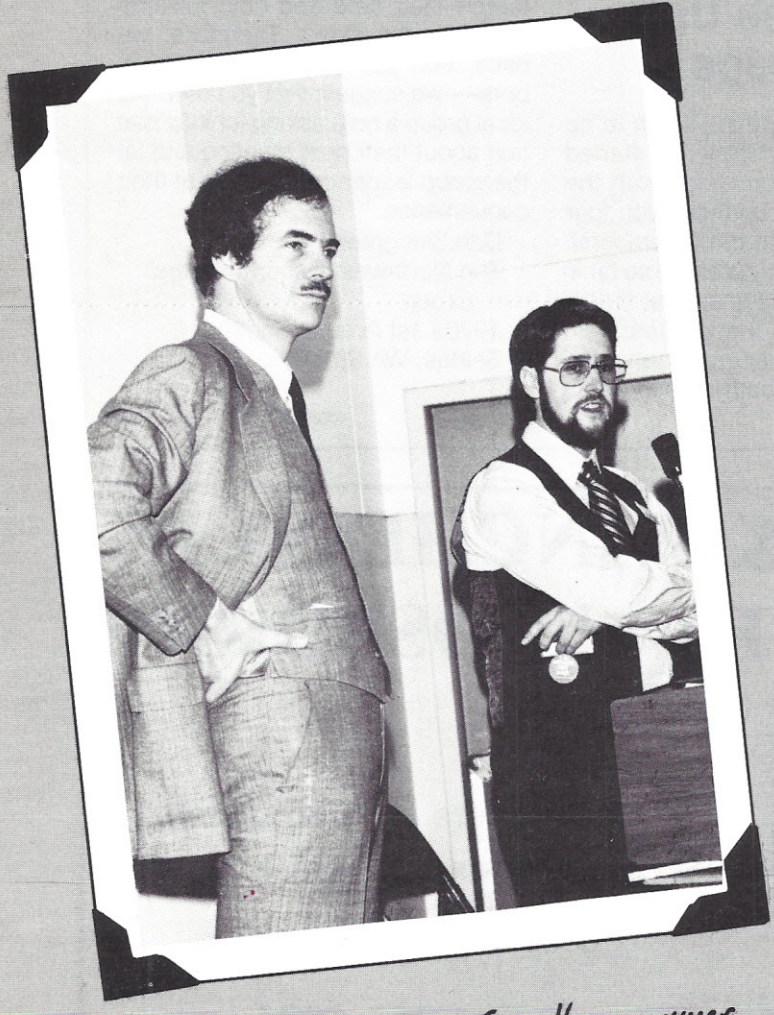
THE OSBORNE SCRAPBOOK

We've attracted so much attention with our Osborne 1 computer, that paparazzi now seem to follow us everywhere. We thought you'd like to see what they have come up with.



Thom Hogan caught writing a few words at the Detroit Metro Airport.



Adam Osborne and Thom Hogan answer questions at a FOG meeting.

Lee Felsenstein, designer of the Osborne 1, explains his design to members of the San Francisco FOG group.

Computer Faire booth in a rare quiet moment. (Before 9 am first day of the Faire?!)

Georgette Psaris VP Marketing

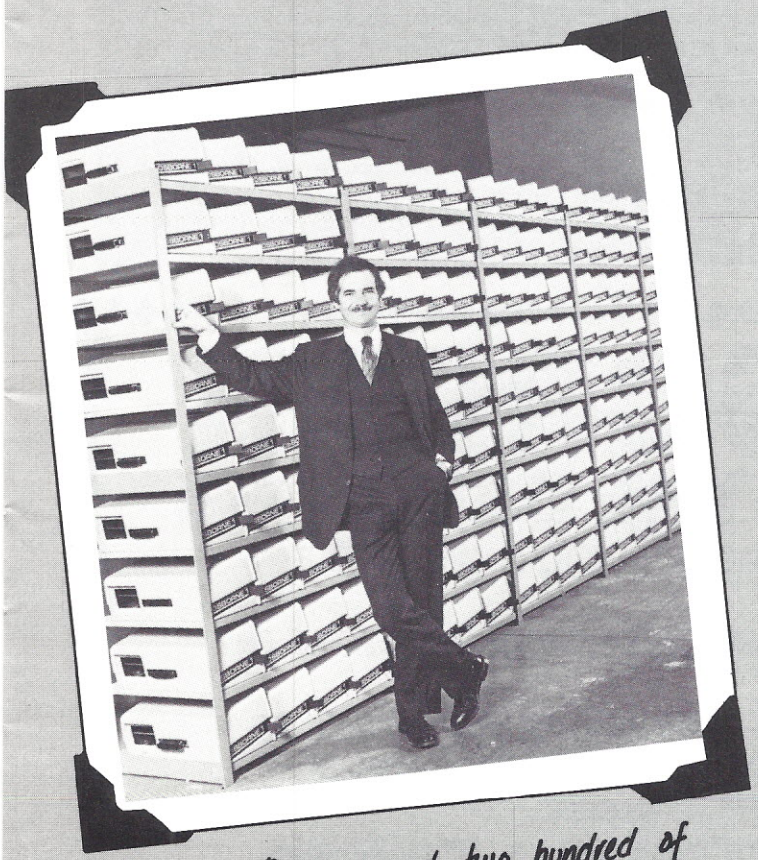
Lee Felsenstein Osborne 1 designer

Lynn Hagen Nat'l Sales Mgr.

Jim Ottinger V.P. Finance

Thom Hogan Marketing Mgr.

Adam Osborne, president and founder of OCC (front and center) and some of his staff.
photo by Karl Lautner



Adam Osborne and two hundred of his namesakes

The Strobe plotter and Trantor disk made things lively in the Digital Deli booth at the West Coast Computer Faire. Osborne owners scooped up the peripherals quickly.

Osborne Wants Your Opinion

When we began finalizing plans to put together the first issue of *The Portable Companion* we asked the First Osborne Group to print a survey form in their newsletter. Within a short time over 75 responses were obtained.

The comments reflected a wide range of opinion about the Osborne 1. True, the results aren't statistically exact (the sampling is heavily weighted in the Silicon Gulch area and with early owners of Osbornes), but the responses were fascinating, and oftentimes surprising. We thought you might like to see what we found out.

Equipment Owned and Desired

We asked about the equipment owned and desired by each respondent. The results were not at all what we would have expected.

Over 80% of the respondents owned printers, with most of that number owning some form of Epson printer (MX-70, MX-80, MX-80FT, or MX-100). Okidata Microline printers were the next most popular, with no other printer getting more than 1 response. Over 25% owned 12″ monitors and modems.

On the desired equipment side, the numbers were even more lopsided. Almost 60% of the respondents said that they anticipated purchasing a modem. Over 50% indicated that they are considering purchasing a hard disk drive. The number of hard disk lovers out there caught us off guard.

As if those numbers weren't surprising enough, 33% indicated that they were going to purchase a printer. If you're keeping track, that seems to indicate that over 110% of the Osborne owners will have printers! What really seems to be happening is that many owners are buying two printers, one for draft quality to get started, then a daisywheel printer later on for high-quality work.

We've been asked about the 80-column often, so we were also surprised to find that only 10% of the respondents were intending to purchase this option. Frankly, this means that either the users who want 80-column Osbornes are extremely vocal, or some of the respondents took it for granted that they would purchase 80-columns and forgot to tell us about it.

All in all, we're not sure what to make of this section of the survey, so we're going to try again. On the next page you'll find a survey form. Check the appropriate boxes and send it back to us. We'll have a full listing of the results in our next issue.

Osborne and Dealer Support

A second section of our survey asked for comments about Osborne

GREEN SCREEN

EYE SAVER FOR THE OSBORNE!

- FITTED NO-GLARE GREEN LENS GIVES YOU A **CRISP** EYE PLEASING DISPLAY.
- STURDY CURVED LENS FITS PERFECTLY OVER THE SCREEN **BEHIND** THE BLACK CASING.
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- ONLY $17.95 PLUS $1.00 SHIPPING & HANDLING CHARGE.

STEVEN ROBBAT & ASSOC.

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Please return this questionnaire to:
User Survey, The Portable Companion
Osborne Computer Corporation
26500 Corporate Avenue
Hayward, CA 94545

Osborne 1 User Survey

Check the boxes for each piece of equipment you own:

☐ PRINTER
- ☐ Epson
- ☐ Okidata
- ☐ NEC dot matrix
- ☐ IDS Paper Tiger
- ☐ Centronics
- ☐ NEC daisywheel
- ☐ Diablo
- ☐ Qume
- ☐ Olivetti
- ☐ IBM Selectric
- ☐ Other _____

☐ MODEM
- ☐ Novation
- ☐ Hayes
- ☐ Other _____

☐ HARD DISK
- ☐ Corvus
- ☐ Trantor
- ☐ XCOMP
- ☐ Other _____

☐ LARGE SCREEN
- ☐ Osborne 12″
- ☐ Zenith
- ☐ NEC
- ☐ Television set
- ☐ Other _____

What Osborne peripherals do you intend to purchase?

	will purchase	considering purchasing
Double Density	☐	☐
80-column	☐	☐
Modem	☐	☐

What peripherals NOT in the above list should Osborne manufacture?

_____

_____

_____

Rate each piece of software we provide with the Osborne 1.

	use all the time		→		never use
WordStar	☐	☐	☐	☐	☐
MailMerge	☐	☐	☐	☐	☐
SuperCalc	☐	☐	☐	☐	☐
MBASIC	☐	☐	☐	☐	☐
CBASIC	☐	☐	☐	☐	☐

What additional software products are you interested in obtaining (Osborne or other manufacturer):

_____

_____

_____

_____

Has your Osborne 1 ever been in for repair work (other than the keyboard upgrade)?

☐ no

☐ yes
for what? _____

_____

_____

If you could change only ONE feature on the Osborne 1, what would it be and why?

_____

_____

OSBORNE
SOFTWARE

ACCOUNTING
DATA BASE MANAGEMENT
ENTERTAINMENT
LANGUAGES
MAILING LIST
MANUFACTURING/ RETAIL SYSTEMS
MEDICAL/DENTAL SYSTEMS
MODELING, PLANNING & ANALYSIS
TELECOMMUNICATIONS
TIME, BILLING & SCHEDULING
WORD PROCESSING

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Of Osborne Software
Over **50** Programs Total

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and dealer service and support. This section invited longer comments, and we got them.

"Some of the documentation for Osborne issued software is tedious, obscure, and inaccurate." That's why we are constantly updating our documentation. While we haven't been able to hire Art Buchwald yet, we have hired some capable, non-tedious persons to help us in this area.

"Would like (want, need, plead for) support directly from OCC. A 'HOT' line or Ombudsman type of help, rather than a put off to the dealer." We both agree and disagree with this comment, which was repeated by a number of you. We agree that users need more support, but we disagree that the phone system is the best method of supporting a computer. This magazine is one attempt to disseminate support information to our customers. We're working on other innovative support methods, including videotape tutorials, cassette tapes, and better documentation. No matter what ma Bell says, we've found the telephone to be an extremely costly and inefficient method of user support.

"Computerland of --- is nasty but competent. They're insensitive to the fact I live 180 miles away, and need my Osborne to work." Until March, we had 94 dealers; there were 24 states in which we didn't even have a dealer. We kept our dealer list small because that was the number of dealers we felt we could effectively support. Things have changed since March, and we now have a much larger dealer network (see Authorized Dealer List, page 79). All authorized Osborne dealers are prepared to do warranty repair work on machines, and in the future, extended warranty repair work, as well. We're not sure if we have a dealer in this respondent's area yet, but chances are that we will in the near future.

"I'm not too jazzed about the documentation nor OCC's 'excuses' that success accounts for shoddy material and overwhelmed customer service. While I'm pleased with OCC's success and my contribution to it, half-assed answered letters and (still) busy telephone lines hasn't endeared the company to me. Can you tell me when dbl. density will be available, how will OCC handle upgrades, when will the modem be available and how much can I expect to pay for all this?" We do not use our tremendous growth as an excuse—there is no excuse for "shoddy material" or "overwhelmed customer service." Nevertheless, growth has been a factor in our ability to keep up. Remember, Osborne Computer Corporation had exactly 10 employees and was producing no computers as little as 10 months ago. Training employees when we're bringing them on as fast as we can hire them is a mind-boggling experience—everyone should have the opportunity to juggle such problems. We're happy with the progress we've made so far; we've brought a great deal of computing power to a large group of people. We've taught computer novices to be more efficient, and we think we've shown the industry some new says to help computer users. Adam Osborne's primary goals for the company in the last few months have been in exactly the areas you suggest need work. We are doing everything we can to make sure that the quality control and support areas are dealt with effectively. As for product announcements, see the New Products section on page 64.

And lest you think that we only received critical comments—we had many more positive than negative comments—consider this owner's description of his Osborne 1: **"Lovely! I'm in love with her. I'd be happy to praise her to anyone—and for practical and thoroughly tested reasons."**

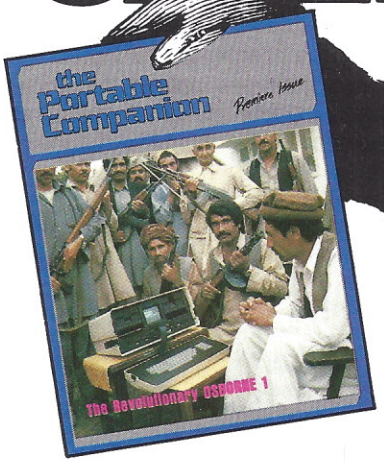
Our Watch Continues

We continually monitor comments from Osborne 1 users. Your comments keep us on our toes, and keep us from becoming too secure in our success.

Someday we hope to make the name Osborne synonomous with quality, lowcost, personal computing. That's a great ambition, but we won't make it without your help.

□

We now make HOUSE CALLS



A subscription to *The Portable Companion* helps you:

- Keep up with the latest product information
- Get the most out of your computer with short cuts and helpful hints
- Crammed full of product evaluations, application ideas and solutions to common problems
- Provides a forum for user ideas and feedback
- Keep up to date with what Osborne User groups are doing across the nation
- Dr. Adam Osborne's "From the Fountainhead" is resurrected

Don't wait to take full advantage of the benefits your Osborne 1 provides. For only $12.50 you receive six exciting issues of *The Portable Companion* delivered to your doorstep. Complete subscription card TODAY.

the Portable Companion

Software now available for the Osborne 1

Documate™
This is an indexing program that works with WordStar™ to create an automatic text index or table of contents. It supports up to 8 levels of sub-indexing using either words or phrases. (Orthocode, Inc.™)

Disk Doctor™
Reclaims damaged diskettes and allows you to create accidentally erased files. Disk Doctor™ helps the Osborne user to restore damaged or faulty diskettes, recovering as much data as it can. As an added benefit, Disk Doctor™ can also certify new diskettes and eliminate bad sectors. (Supersoft™)

Math*™
Adds basic math capability to WordStar™. Math*™ performs addition, substraction, multiplication and division in rows or columns. (Force Two™)

Enumerate™
Enumerate™ adds variable line numbering abilities to your documents. With Enumerate™, you can number by line, paragraph, or any sequential pattern (ideal for attorneys). (Orthocode™)

The Micro Link™
For phone communications, this easy-to-use package allows the Osborne user to interface with electronic bulletin boards, information services, other remote computers, and sends and receives files. (Wordcraft, Inc.™)

Datebook™
This popular program handles calendar and appointment schedules for the busy executive or professional. A valuable tool for time management, Datebook™ keeps a permanent record of each day's activities for future reference. (Organic Software, Digital Marketing™)

Spellguard™
Spellguard™ pinpoints spelling and typographical errors in written materials with it's 20,000 word dictionary. The dictionary can be expanded to include technical words, foreign languages, etc. (Innovative Software™)

SuperSort™
Performs sorting, merging, and record selection functions on data files. SuperSort™ is compatible with Basic, Fortran, Cobol and assembler programs, and can be used with mail lists maintained with Mailman™ and WordStar™. (MicroPro™)

Personal Pearl™
The easy way to create custom application programs through English language interaction with your Osborne computer. Personal Pearl™ asks you for examples of the results you require from your Osborne and then produces an applications program. (Relational Systems International™)

Mailman™
Mailman™ creates and manages your mailing list. Formatted screen entry with eight different selecting criteria gives the user ease of access and entry, along with discrete listing capabilities. (Standard Microsystems™)

Milestone™
Milestone™ is ideal for the planning, priority scheduling and tracking of small projects. Milestone™ creates Gant project charts and can be configured to find the critical path of a project. (Organic Software™)

Money Maestro™
Money Maestro™ is designed to provide financial recordkeeping, tax reporting and budgeting for professionals, clubs, families and very small businesses. Those who value accurate records, but don't require full-blown double-entry accounting systems, will find Money Maestro™ to be a simple and complete money management package. (Inno Systems. Inc.™)

Footnote™
Footnote™ numbers and formats footnote calls and the actual notes in WordStar™ text files. Footnote™ numbers notes consecutively, and formats the file, placing the notes at the bottom of the appropriate page, or moving them out of the text to a separate footnote file. (Pro/Tem Software, Inc.™)

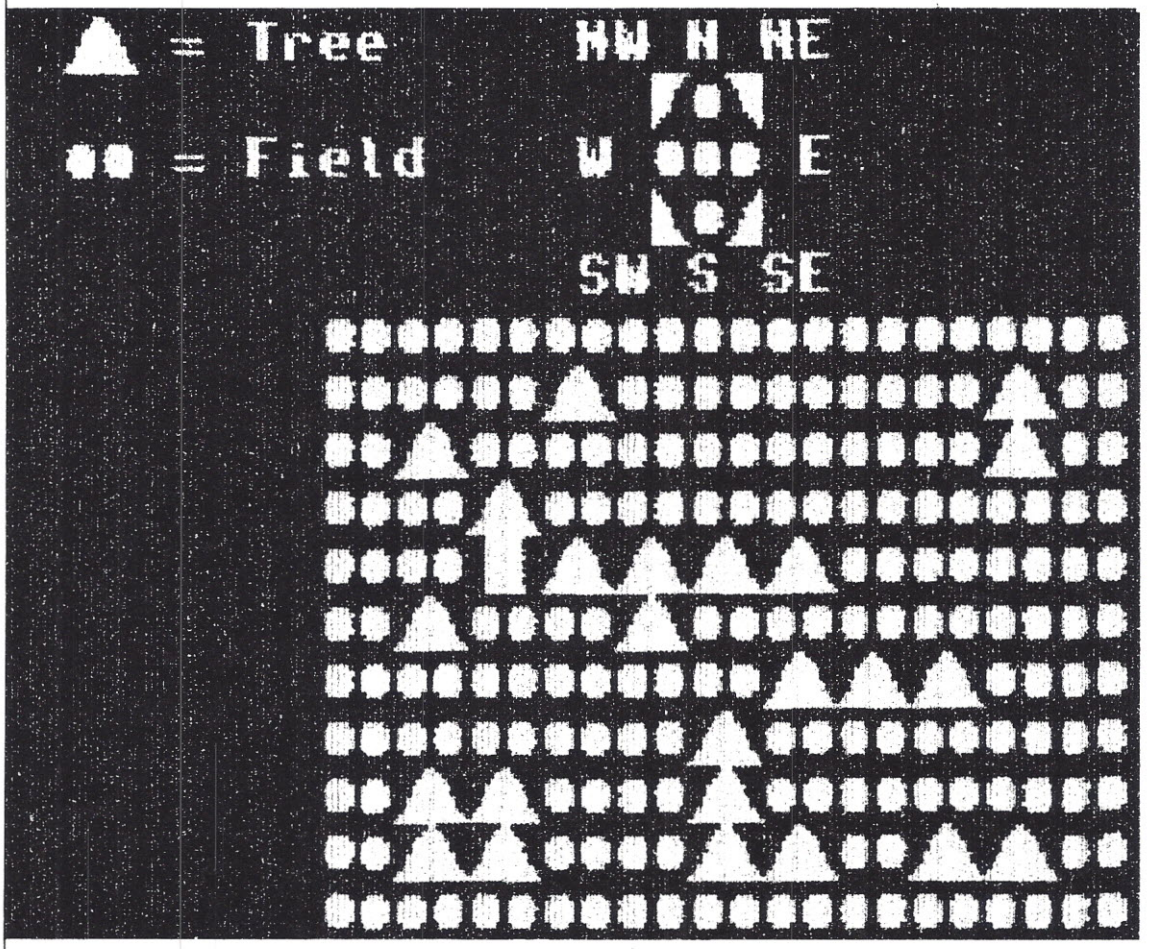
DataStar™
DataStar™ is an easy-to-learn, versatile and comprehensive data entry program, retrieval and update system for your Osborne. DataStar™ handles recordkeeping applications from initial form design through updating, addition/deletion, and search/retrieval of records. (MicroPro™)

dBase II™
dBase II™ is a powerful, data management tool for constructing and manipulating numeric and character information files. A special feature of dBase II™ is its own English-style program-building language. You may SORT, EDIT, or DISPLAY a database directly from the keyboard, or write menus and programs to support your specific applications. (Ashton-Tate, Inc.™)

MBasic Compiler™
Allows Osborne users to compile their MBasic interpretive programs. The Basic Compiler provides you with three major benefits: 1) increased speed of execution for most programs; 2) decreased program size for extremely large programs; 3) source code security. (Microsoft, Inc.™)

These software packages are available at your local Osborne dealer.

BASIC Graphics



Graphics Applications for the Osborne 1

by KELLY SMITH

Although the Osborne 1 computer offers only 32 displayable graphics characters, they can be utilized to effectively 'enhance' many applications programs and to increase the 'user appeal.' When used in conjunction with the programmable screen controls, they provide visual effects only available on more expensive terminals. However, most implements of the graphics features are simplified tremendously if written in assembly language as opposed to a high-level language.

Why? Well, mostly due to the cumbersome 'string handling' capability of most high-level languages when attempting to utilize machine specific screen control sequences.

This article is primarily aimed at: (1) the 'non-programmer' of assembly language code (Microsoft MBASIC is generally more interactive for the novice, and certainly easier to understand!); (2) maximum utilization of the applications software provided with the Osborne 1 Computer to make the job easier (and even fun!); (3) to show an easy method of implementing the graphics and screen controls within a high level language application (in this case a game!).

General Considerations

Well, I want to use as much of the screen control capability of the Osborne 1 computer as possible; I want to 'cleanly' format information on the 52 character wide display screen; I want to be able to 'maneuver' character strings and graphics characters 'at will' anywhere on the screen display with minimum 'fuss' as I develop the program. So let's get started!

First of all, I need the program to describe to the user what the game is all about. Also, let's just clear the screen with a simple string command using the

CONTROL-Z 'clear screen/home' cursor function. Referring to your 'Osborne 1 Users Guide' Table 8-1, you will find the entire set of graphics characters and control characters (control characters are preceded with a '^' character for clarification). The hexadecimal value for CONTROL-Z (^Z) is '1A', but for the novice, you just care that it is an ASCII 'SUB' (ASCII is short for American Standard Code for Information Interchange . . . Whew!). Now, we need the decimal value of CONTROL-Z—assuming that you are not a 'whiz' at all the details of hexadecimal-to-decimal conversion, where can you find the decimal value? It's in the MBASIC manual, Appendix M, in a complete table of values and characters! You now have a one-to-one reference (and we will use both tables) to make use of the many screen control features.

Now, armed with the table information, we see that a '^Z' (I will use this shorthand form from now on) is a decimal 26. So to do a 'clear screen/home cursor' we need only to PRINT with the MBASIC function CHR$(I) as follows:

```
10 PRINT CHR$(26)
```

The start of our program is at Line 10.

Gee, this cleans up the display screen quickly, doesn't it? Now, let's prepare some text for instruction.

Using WordStar for Game Explanations

Although MBASIC has an interactive EDITOR for entering programs, it's less than ideal for anything with 'gobs' of text—crude, as a matter of fact!

MicroPro's WordStar was MADE just for text processing, and is IDEAL for what we want to do here: 52-column screen format, with left and right 'justification' (otherwise known as 'no raggedy right'), plus it does almost ALL the work except for the typing. Here is what I do:

(1) insert my WordStar diskette in the CP/M 'A:' drive, and a blank, formatted diskette in the 'B:' drive;

(2) think of a name for my game 'text' . . . Hmmm . . . O.K., MONSTER.TXT!;

(3) then let WordStar know that we want to prepare a 'Document file' by typing a 'D' at the 'No File Menu' level, and then entering 'B:MONSTER.TXT' when WordStar Requests a filename;

(4) I am now editing a 'NEW FILE', so I get the 'Edit Menu' and a 'ruler' display of the present left/right margin placement and column length (default, is 65 characters). So first I;

(5)'^ OR52 <cr> ' (That's CONTROL-O, then 'R', then 52, then RETURN) to set the right-hand margin to 52 characters displaying screen width . . . and then, TYPE!

For example, we might get started with our graphics program by explaining the game as follows:

In the game of 'Monster', you attempt to win treasure from various loathsome creatures and leave the forest with as much treasure as possible without getting killed in the process! At the beginning, . . . (blah, blah blah!)

Use RETURN when you really want to make a new paragraph, and then just continue typing until you are satisfied with the 'explanation' of it all. Once you think you are done, then:

(1) enter '^KS' to SAVE your text, but return to edit the SAME text (we have MORE work to do yet!);

(2) enter '^OR80<cr>' to now set the right-hand margin to 80 columns;

(3) start entering those 'gruesome' line numbers and 'PRINT' statements that MBASIC requires to print your text. Don't forget that you need to enter a double quote at the end of EACH line. Your MBASIC text starts looking like the lines 60 through 100 of Figure 1 (see next page).

Notice the PRINT:PRINT in Line 60? That's to start a new paragraph in the otherwise blank line you made with a RETURN. And also notice that although the prepared text is looking a bit 'raggedy', it WILL look super when PRINTED by MBASIC! If you like, you can flip back and forth from 80 to 52 column margins as you finalize your text display. Also, '^ OC <cr> ' (center text display) makes for quick formatting of sign-on messages to the 'screen center'.

So after about (maybe) one hour work, we have the entire 'explanation' formatted for a super-duper display. End the edit session of MONSTER.TXT with '^KX', and remove any embedded control information (used by WordStar) as follows:

```
A>PIP B:MONSTER.TXT=B:MONSTER.

TXT[Z]<cr>
```

This 'PIP' (Peripheral Interchange Program) utility provided with CP/M allows for many optional file transfer characteristics to be invoked by the user. The '[Z]' (left bracket, Z, right bracket) function effectively removes the unwanted 'high bit' (only assembly language programmers will understand!) from the prepared text, while retaining the original file in a form suitable for MBASIC. The text may then be MERGE'd within your program using MBASIC, or with WordStar's '^KR' (read a file) function. I prefer to use WordStar because of its flexibility.

Figure 1 is the entire text of 'MONSTER' prepared as I just described.

```
2Ø PRINT"                    Wizard of OsZ - 'Monster'"
3Ø PRINT"                (C) 1982, by  Wizard of OsZ"
4Ø PRINT:INPUT"Do you require instructions (Y or N)";X$
5Ø IF LEFT$(X$,1)="N" THEN GOTO 89Ø
6Ø PRINT:PRINT"In  the  game  of  'Monster',  you  attempt  to  win"
7Ø PRINT"treasure  from  various  loathsome  creatures  and"
8Ø PRINT"leave the forest with as much treasure as possible -"
9Ø PRINT"without  getting  killed in the  process!    At  the"
1ØØ PRINT"beginning,  you  are  placed  at a  randomly  chosen"
11Ø PRINT"location in a forest with a certain number of combat"
12Ø PRINT"strength points.    As you move through the  forest,"
13Ø PRINT"you  will  encounter  monsters  guarding  various"
14Ø PRINT"tempting treasures."
15Ø PRINT:INPUT"Press RETURN to continue",X$:PRINT CHR$(26)
16Ø PRINT"At  each  meeting  you  are  given  a  choice  of"
17Ø PRINT"fighting the monster,  running from it,  or  bribing"
18Ø PRINT"it.  If  you  wish  to  fight you will be asked  to"
19Ø PRINT"enter  the number of combat points you wish to  use."
2ØØ PRINT"Enter any number smaller than your present strength."
21Ø PRINT"Each monster has its own combat strength.  These are"
22Ø PRINT"as follows:"
23Ø PRINT
24Ø PRINT" 1Ø - Minotaur"
25Ø PRINT" 2Ø - Cyclops"
26Ø PRINT" 3Ø - Zombie"
27Ø PRINT" 4Ø - Giant"
28Ø PRINT" 5Ø - Harpy"
29Ø PRINT" 6Ø - Griffin"
3ØØ PRINT" 7Ø - Chimera"
31Ø PRINT" 8Ø - Dragon"
32Ø PRINT" 9Ø - Wyvern"
33Ø PRINT"1ØØ - Baslisk"
34Ø PRINT:INPUT"Press RETURN to continue",X$:PRINT CHR$(26)
35Ø PRINT"If  you  enter  a  number  equal  to  the  monsters"
36Ø PRINT"strength,  you have a 5Ø-5Ø chance of defeating  it."
37Ø PRINT"Entering  a  higher number increases your chances of"
38Ø PRINT"winning, while entering a smaller number lowers that"
39Ø PRINT"chance.    No  matter  how much  strength you  use,"
4ØØ PRINT"there  is  a 1 in 1ØØØ chance that the monster  will"
41Ø PRINT"kill  you anyway !  Also,  the more  treasure  you"
42Ø PRINT"have,  the  more strength you need to use to achieve"
43Ø PRINT"the same odds against the monster in combat.  If you"
44Ø PRINT"choose  to run,  your chances of getting away from a"
```

continued next page

Figure 1

```
450 PRINT"monster successively decrease as each new  monster's"
460 PRINT"strength increases.  Thus you are more likely to get"
470 PRINT"away  from a Minotaur  than from a Baslisk."
480 PRINT:INPUT"Press RETURN to continue",X$:PRINT CHR$(26)
490 PRINT"If you succeed in running away,  you are placed in a"
500 PRINT"new randomly selected  square.  Not  getting  away"
510 PRINT"usually results in a battle. Occasionally, while you"
520 PRINT"are  running,  the monster will catch you -  one  of"
530 PRINT"the  risks of chickening out.  Of course trying  to"
540 PRINT"bribe  your foe is an age old alternative to running"
550 PRINT"or fighting.     For this, you must use the treasure"
560 PRINT"you have won.  Whether or not you succeed depends on"
570 PRINT"the   value  of  the   treasure  the   monster   is"
580 PRINT"guarding.     The   more  its  value,  the more  you"
590 PRINT"must pay to successfully bribe your  adversary.   If"
600 PRINT"the bribe fails, prepare to fight."
610 PRINT:INPUT"Press RETURN to continue",X$:PRINT CHR$(26)
620 PRINT"Treasure values are:"
630 PRINT
640 PRINT" 10 - Ten Silver Spoons"
650 PRINT" 30 - Jeweled Sword"
660 PRINT" 50 - Jar of Rubies"
670 PRINT" 50 - Fifty Siver Coins"
680 PRINT" 75 - Box of Jewels"
690 PRINT"100 - One Hundred Gold Pieces"
700 PRINT"200 - Treasure Chest"
710 PRINT:INPUT"Press RETURN to continue",X$:PRINT CHR$(26)
720 PRINT"Movement through the forest is easy:  just enter the"
730 PRINT"direction you wish to go - N for North, SE for South"
740 PRINT"East,  etc.  The  option to reset the display  is"
750 PRINT"included   (  press  1  ) in case the previous  play"
760 PRINT"of  the  game  caused too many lines of text  to  be"
770 PRINT"printed below the  map.  The map will be  reprinted"
780 PRINT"and  the  display cleared.  Your position  will  be"
790 PRINT"displayed on the map,  as well  as  the location  of"
800 PRINT"trees   in   the  forest.  You must go  around  the"
810 PRINT"trees.  To  leave,  simply move to any  blank  area"
820 PRINT"adjacent to  the edge of the map.  Scores of 500 to"
830 PRINT"700 are average.  Anything above 1000 is excellent."
840 PRINT"As is common to  games of  this  type,  I have left"
850 PRINT"out  a  number of things that you will have to  find"
860 PRINT"out  for  yourself (The Wizard of OsZ has  to  have"
870 PRINT"some  fun, after all).  Good luck and good hunting!"
880 PRINT:INPUT"Press RETURN to continue",X$:PRINT CHR$(26)
```

The 'PRINT:INPUT"Press RETURN to continue"X$:PRINT CHR$(26)' were added after determining just how much text I wanted on each display screen. Remember, just using PRINT statements causes the text to 'scroll' off of the screen before anyone can read it! By using the 'Press RETURN . . .' and 'PRINT CHR$(26)', we have a nice way of allowing the reader to control what is being read. And to minimize your typing, enter the line statements just once and use the block copy function of WordStar to duplicate (copy) the line as many times as you need it. 'Tag' the start of the text with '^KB' and the end with '^KR', then use '^KC' after moving the cursor to WHERE you want to copy the text . . .easy!

Setting Up the Screen Control Definitions

First we 'clean-up' the screen one last time after the text (and make an entry for that GOTO in Line 50!), throw in a random 'seed' request to make the game interesting (we don't want the user getting bored with playing the SAME game every time he 'turns it on'!), and then get down to the details of screen control and graphics characters to be used:

```
89Ø PRINT CHR$(26)
9ØØ RANDOMIZE
```

That was easy, now let's define the 'control definitions' that we will be using. See Figure 2, below.

That's out of the way, leave some 'informative comments' about how the direct cursor addressing works:

```
1Ø3Ø 'NOTE:  The Osborne I uses the
     following scheme for direct
     cursor addressing:

1Ø4Ø '       Location= (CHR$(Line
     number+32))(CHR$(Column
     number+32));
```

Now we can start coding the game. We dimension an array and clear the screen:

```
1Ø5Ø DIM A(1Ø,1Ø):PRINT CLS$
```

Make some fancy 'double character' graphics that are displayed as DIM (not as bright as some characters that we want to just naturally 'highlight'!) See Figure 3, below.

Well, we are in the 'thick-of-it' now. Pay very close attention to the code in Figure 4, especially the subroutine at Lines 2080 through 2100, and Lines 2170 through 2250—this is where almost ALL of the graphics work is being done! Also, to 'enhance' the readability of the running accumulation of 'strength' and 'treasure' values (examine Lines 1150, 1220, etc.), I 'bracket' them with Underline ON (UY$) and Underline OFF (UN$)—very easily implemented!

```
91Ø ' Osborne I Terminal Commands
92Ø E$=CHR$(27):'              Escape Character
93Ø CLS$=CHR$(26):'            Clear Screen
94Ø DC$=E$+"=":'               Direct Cursor Addressing
95Ø GY$=E$+"g":'               Graphics On
96Ø GN$=E$+"G":'               Graphics Off
97Ø HO$=E$+CHR$(1):'           Cursor Home
98Ø EP$=E$+"T":'               Erase to End of Line
99Ø DY$=E$+")":'               DIM Display On
1ØØØ DN$=E$+"(":'               DIM Display Off
1Ø1Ø UY$=E$+"l":'              Start Underlining
1Ø2Ø UN$=E$+"m":'              End Underlining
```

Figure 2

```
1Ø6Ø CH$(Ø)=DY$+CHR$(13)+CHR$(13)+DN$:' Field Character (border)
1Ø7Ø CH$(1)=DY$+CHR$(13)+CHR$(13)+DN$:' Field Character (field)
1Ø8Ø CH$(2)=CHR$(1Ø)+CHR$(8):'  Tree
1Ø9Ø CH$(5)=CHR$(4)+CHR$(1):'   Your Position
```

Figure 3

```
1100 FOR I=1 TO 9:FOR J=1 TO 9:A(I,J)=1:IF RND(1)>.75 THEN A(I,J)=2
1110 NEXT J,I
1120 X=INT(RND(1)*6+2):Y=INT(RND(1)*6+2)
1130 A(X,Y)=5:C=INT(RND(1)*1501+500)
1140 GOSUB 2080
1150 PRINT "Your strength is ";UY$;C;UN$:GOSUB 1390:IF I>11 THEN 1150
1160 IF M=0 THEN PRINT "You get the treasure free!":GOTO 1630
1170 IF M=100 AND N=1 THEN 2070
1180 PRINT GN$;"Do you want to (F)ight, (R)un, or (B)ribe? "
1190 Z9$=INPUT$(1):IF Z9$<>"F"AND Z9$<>"R" AND Z9$<>"B" GOTO 1190
1200 IF Z9$="F" GOTO 1210 ELSE IF Z9$="R" GOTO 1300 ELSE IF Z9$="B" GO
TO 1770 ELSE GOTO 1180
1210 INPUT"How many combat points do you wish to use";K
1220 IF K>C THEN GOSUB 1760:PRINT UY$;C;UN$;"Combat points":GOTO 1210
1230 I=INT(RND(1)*1001):L=2:C=C-K:K=K-.01*Q
1240 FOR H=1000 TO 0 STEP-50:IF L*M<=K AND H>=I THEN 1610
1250 L=L-.1:NEXT
1260 PRINT "The monster killed you, and you lose everything."
1270 PRINT "Do you want to try again?";
1280 Z$=INPUT$(1):PRINT CHR$(26):IF Z$="Y" THEN RANDOMIZE C:C=0:Q=0:GO
TO 1080
1290 PRINT :PRINT "So long for now. Better luck next time!":END
1300 PRINT CHR$(26):I=INT(RND(1)*12):IF I=11 THEN 1260
1310 FOR H=0 TO 10:IF H*10>M AND H<=I THEN 1330
1320 NEXT:GOTO 1840
1330 A=X:B=Y
1340 X=INT(RND(1)*3-1)+A: Y=INT(RND(1)*3-1)+B
1350 IF A(X,Y)>1 THEN 1340
1360 IF A(X,Y)=0 THEN 2130
1370 A(A,B)=1:A(X,Y)=5:IF I<>12 THEN 1140
1380 RETURN
1390 I=INT(RND(1)*18+1):M=I*10:IF I<11 THEN PRINT  "A ";
1400 ON I GOTO 1410,1420,1430,1440,1450,1460,1470,1480,1490,1500,1510,
1920,1850,2110,2150,2150,2150,2150
1410 PRINT "Minotaur";:GOTO 1520
1420 PRINT "Cyclops";:GOTO 1520
1430 PRINT "Zombie";:GOTO 1520
1440 PRINT "Giant";:GOTO 1520
1450 PRINT "Harpy";:GOTO 1520
1460 PRINT "Griffin";:GOTO 1520
1470 PRINT "Chimera";:GOTO 1520
1480 PRINT "Dragon";:GOTO 1520
1490 PRINT "Wyvern";:GOTO 1520
1500 PRINT "Baslisk";:GOTO 1520
1510 PRINT "Nothing";:M=0
1520 PRINT " is guarding ";:I=INT(RND(1)*7+1)
1530 ON I GOTO 1540,1550,1560,1570,1580,1590,1600
1540 PRINT "Ten Silver Spoons":P=10:RETURN
1550 PRINT "a Jeweled Sword":P=30:RETURN
1560 PRINT "a Jar of Rubies":P=50:RETURN
1570 PRINT "a Treasure Chest":P=200:RETURN
1580 PRINT "Fifty Silver Coins":P=50:RETURN
```

Figure 4

```
1590 PRINT "100 Gold Pieces":P=100:RETURN
1600 PRINT "a Box of Jewels":P=75:RETURN
1610 PRINT "You beat the monster!"
1620 S=S+1
1630 Q=Q+P
1640 IF P=30 THEN GOSUB 1970
1650 IF P=200 THEN GOSUB 2000:GOSUB 2040
1660 PRINT "You have ";UY$;Q;UN$;" treasure points"
1670 X$="":A=X:B=Y:INPUT"What direction (Hit '1' to re-display)";X$:PR
INT CHR$(26):IF X$=""GOTO 1670
1680 IF X$="1" THEN PRINT CLS$:GOSUB 2080:GOTO 1670
1690 IF RIGHT$(X$,1)="W" THEN X=X-1
1700 IF RIGHT$(X$,1)="E" THEN X=X+1
1710 IF LEFT$(X$,1) ="N" THEN Y=Y-1
1720 IF LEFT$(X$,1) ="S" THEN Y=Y+1
1730 IF A(X,Y)=0 THEN 2130
1740 IF A(X,Y)=2 THEN PRINT CHR$(7);"Oops...You ran into a tree!":X=A:
Y=B:GOTO 1670
1750 A(A,B)=1:A(X,Y)=5:GOTO 1140
1760 PRINT "You only have";:RETURN
1770 INPUT"How much do you want to pay";K
1780 IF K>Q THEN GOSUB 1760:PRINT UY$;Q;UN$;" treasure points":GOTO 17
70
1790 I=INT(RND(1)*22):L=0:IF I=21 OR K<1 THEN 1260
1800 FOR H=0 TO 20:IF K<=L*P AND I>=H THEN 1830
1810 L=L+.1:NEXT
1820 PRINT "Your bribe was accepted.";:Q=Q-K:GOTO 1660
1830 PRINT "Your bribe was not accepted.";
1840 PRINT "You must fight":GOTO 1210
1850 PRINT CHR$(7);
1860 PRINT"The  guardian of the forest captured you,  took half"
1870 PRINT"your treasure,  and then took you to a new  location"
1880 PRINT"in the forest...tough luck!"
1890 Q=Q/2:A=X:B=Y:FOR I9=1 TO 4000:NEXT
1900 X=INT(RND(1)*7+2):Y=INT(RND(1)*7+2):IF A(X,Y)<>1 THEN 1900
1910 A(A,B)=1:A(X,Y)=5:PRINT CHR$(26):GOSUB 2080:I=13:RETURN
1920 J=INT(RND(1)*20+1):C=C-J
1930 PRINT "You fell into a pit and used ";UY$;J;UN$;"
1940 PRINT "combat points to climb out..."
1950 IF C<0 THEN PRINT "...but you died while climbing out!":GOTO 1270
1960 GOTO 1330
1970 IF RND(1)<.5 OR C>3000 THEN RETURN
1980 PRINT "The sword was enchanted and doubles your strength!"
1990 C=C*2:RETURN
2000 I=INT(RND(1)*10):IF I<>7 THEN RETURN
2010 PRINT "Sorry, but the chest was a trap...."
2020 PRINT "You were killed when you opened it!"
2030 GOTO 1270
2040 PRINT CHR$(27);"L"
2050 PRINT "A mirror was in the chest..."
2060 PRINT "It will kill any Basilisks you meet":N=1:RETURN
2070 PRINT "Your mirror killed the Basilisk":GOTO 1620
```

Next is the 'main routine' for the graphics display; it employs almost all of the important control functions. You must keep VERY CAREFUL track of WHEN the Graphics ON (GY$) and Graphics OFF (GN$) is used in conjunction with the direct cursor addressing. A little tricky at times, but not impossible! (Figure 5.)

The code from lines 2170 through 2250 handles the direct cursor addressing with a 'mix' of the graphics character control. It may be a little 'cryptic' as to how the coordinate positions are derived from ASCII characters used within the quotes following the Direct Cursor (DC$), so I will explain:

We want to 'position' a graphic character, and a text string following it, on the first line on the screen (row 32) at the seventh character position (column 39). Using the table from Appendix M of the MBASIC manual, we can derive the direct correlation of ('Y/X' coordinate position, in this case . . .) to the ASCII character equivalent position. Therefore, the row 32 position is an ASCII SPACE character, and the column 39 is an ASCII SINGLE QUOTE. We just count positions starting from the first displayable position (always 32 for row, and 32 for column!) plus the additional offset required to 'get to' where we actually need to place the cursor. By using ASCII characters, we are not encumbered by a bunch of digit values, and it takes a lot LESS TYPING to boot! Refer to Figure 6, below.

Notice the one 'flaw' in this scheme (Lines 2180 and 2200)—some coordinate positions use the ASCII DOUBLE QUOTE (decimal 34) that is the 'clue' to MBASIC that we want to start (or end) a printable text string. Well, we can't have both in this situation, so we must resort to using the 'CHR$(I)' function for the special case when we mean 'ASCII Character 34' and not ASCII Character DOUBLE QUOTE! Also, Lines 2210 through 2230 could be recoded as part of the special graphic sequences set-up initially, but I thought it would give you a better clue as to how to 'mix' the control sequences inside a subroutine.

Conclusion

Many additional 'features' of the Osborne 1 computer's screen control and graphics character set could be further utilized, of course, but this article (hopefully!) merely sets the pace for what YOU might want to pursue in your own applications.

Further graphics capability can be demonstrated with just WordStar alone (clue: use ' P', then use the CP/M 'TYPE' command to display your graphics file [after 'filtering' with the PIP 'Z' option].

In any case, the Osborne 1 computer and the software provided with it allows you to some very creative programming. The Wizard of OsZ says: "Have Fun!"

Kelly Smith is an SAP (Special Applications Programmer) for the Wizard of OsZ™. In addition to his frequent contributions to Lifelines, *Kelly also runs a full-time dial-up CP/M system in Simi Valley, CA, and is regarded as one of the leading experts on CP/M programming.*

MONSTER was originally written in 'non-vanilla' BASIC by Lee Chapel, and appeared in its original form in Byte *magazine, December 1980. The author wishes to thank Lee for some of the concepts in the orginal program.*

```
2080 GOSUB 2170:PRINT HO$:FOR I=0 TO 10:PRINT TAB(15);:FOR J=0 TO 10
2090 PRINT GY$;CH$(A(J,I));
2100 NEXT J:PRINT GN$:NEXT I:PRINT EP$;GN$:RETURN
2110 IF S<5 THEN 1390
2120 PRINT "A giant eagle carried you to safety"
2130 PRINT :PRINT "You survived the forest"
2140 PRINT "You won a treasure total of ";UY$;Q;UN$:PRINT "Congratula
    tions"
:PRINT "Would you like to play again? ";:GOTO 1280
2150 PRINT "There is nothing to be found here":GOTO 1660
2160 END
```

Figure 5

```
2170 PRINT DC$;" '";GY$;CH$(5);GN$;" = Your location";
2180 PRINT DC$;CHR$(34);"'";GY$;CH$(2);GN$;" = Tree";
2190 PRINT DC$;"$'";GY$;CH$(0);GN$" = Field"
2200 PRINT DC$;CHR$(34);"5";"NW N NE"
2210 PRINT DC$;"#7";DY$;GY$;CHR$(25);CHR$(13);CHR$(21);GN$;DN$;
2220 PRINT DC$;"$5";"W ";DY$;GY$;CHR$(13);CHR$(13);CHR$(13);GN$;DN$;"
E";
2230 PRINT DC$;"%7";DY$;GY$;CHR$(8);CHR$(13);CHR$(10);GN$DN$;
2240 PRINT DC$;"&5";"SW S SE";
2250 RETURN
```

Figure 6

□

Smoother Scrolling, Smoother Scrolling, Smoother Scrolling, Smoother Scrolling, *Faster* Cursor Movements,

and Other Reasons for Modifying WordStar on the Osborne 1

by THOM HOGAN

When the Osborne 1 was first introduced, the version of WordStar that was shipped with the machine had smooth, fast horizontal scrolling. Unfortunately, it had some problems, or at least our users told us it did.

First, most users objected to underlining being used as the method of highlighting. "The screen's too cluttered," they said. Others told us that when they used MOVCPM to create a new system size, WordStar would no longer work due to the fact that some addresses were locked into our version. Yet another group of Osborne owners asked why they couldn't hook a terminal up to the serial port and review the document they were editing on an 80-column screen.

We capitulated to those requests, both because they were loud, but also because their frequency indicated a strong groundswell of disapproval. Beginning with machines shipped in early November, we supplied a different version of WordStar that incorporated the emulation of a TeleVideo 920c terminal and had jerkier scrolling, but no underlining and no fixed addresses.

Well, to make a long story short, some users complained about having the smooth scrolling taken away. As Adam Osborne was heard to say: "one man's pie is another man's poison." True, the complaints were less frequent and less vocal, indicating that we probably had made the right choice to change WordStar, but nevertheless, we don't like to get ANY complaints.

Thus was this article born. For those of you who aren't afraid of a bit of programming and a bit of mucking around in the depths of hexadecimal numbers, this article allows you to make a number of changes to your WordStar diskette. For those of you who are newcomers to computing and the weird incantations that accompany this article make no sense to, we strongly suggest that you look to your local Osborne user group to find a programmer-type friend to help you out.

WordStar is a programmer's dream come true: a program which is table-driven and easily changed to accommodate different needs or tastes. In particular, there is a section of WordStar devoted to the way WordStar communicates with the video display. This is the section of WordStar we want to make changes to.

Figure 1 is an 8080 assembly language program that can be entered by you using the non-document option

in WordStar onto a diskette. This listing has some Z80 instructions imbedded within it, but they have been put in so that ASM can assemble them properly (in other words, I faked them). The comments which accompany the listing should be self-explanatory.

What the listing accomplishes is two things: first by turning on the memory-mapped video option, it allows WordStar to directly access memory when writing characters to the screen as opposed to having to move the cursor to place a character on the screen; second, a blank area within WordStar is used to add some special routines which force WordStar to horizontal scroll beginning at the 42nd column on the screen.

Notice at the beginning of the listing that there are several EQU statements which set values to TRUE or FALSE. You should change these to your preferences. For instance, if you didn't mind the underline character being used to highlight information on the screen, you should have a line that says:

```
HILITE EQU TRUE
```

If you'd prefer no highlighting to underlining, you'd make the line read:

```
HILITE EQU FALSE
```

Once you've entered the assembly language code and chosen your options, the following process completes the modifications to WordStar:

1. Use ASM to assemble the file you create. We'll assume you titled the file WSMODS.ASM, so the process would be to put your CP/M Utility diskette in drive A and the diskette with WSMODS.ASM in drive B and type:

   ASM WSMODS.BBB <cr>

   If the file assembles with no errors, you may go on, otherwise correct the errors before continuing.
2. Put your WordStar diskette in drive B and change the default drive to drive B by typing:

   B: <cr>
3. Load WordStar into memory with DDT by typing:

   A:DDT WS.COM <cr>
4. Take the WordStar diskette out of drive B and put in the diskette with WSMODS.ASM on it into drive B. Type:

   IWSMODS.HEX <cr>

   R <cr>

   You are now overlaying the modifications on top of WordStar.
5. Return your WordStar diskette to drive B and type a^C to restart the system and log in the changed diskette. To save your new creation, type:

   SAVE 63 B:WS.COM <cr>

   The B: isn't necessary, but I like to type it just to play it safe (sometimes I get back to drive A without noticing), because, if you goof, you have to go back to step 2 again.

You can now use your modified WordStar diskette. You might want to study the source listing below carefully to see what other changes you can make to WordStar.

Smoother
Smoother
Smoother
Smoother
Smoother
Smoother
Smoother
Smoother

```
;-----------------------------------------|
;                                         |
; This file contains the locations you     |
; may modify to change WordStar parameters |
; on the Osborne 1 computer.               |
;                                         |
; If assembled without changes, the file   |
; will create terminal drivers with smooth |
; horizontal scrolling and no highlighting.|
; Other options may be selected by using the|
; EQU statements at the beginning of the   |
; file.                                   |
;                                         |
;=========================================|
```

```
;
;   WSMODS.ASM
;
;=============================================|
;                                             |
; Published by The Portable Companion, 1982.  |
; Routines by Thom Hogan, OCC                 |
;                                             |
;_____________________________________________|
;
;       DEFINITIONS
;
TRUE    EQU     1
FALSE   EQU     NOT TRUE
;
SMOOTH  EQU     TRUE    ;if TRUE, smooth scrolling implemented
HILITE  EQU     FALSE   ;if TRUE, underlined video selected for hilite
WIDE    EQU     TRUE    ;if TRUE, 128 character width set, else 80
;
CURSOR  EQU     0EF5Ah  ;location of cursor position in BMRAM
IOUT    EQU     0106h   ;location of output routine in WordStar 2.26
ESCAPE  DB      27      ;ASCII code of <ESC>
;
;       TERMINAL PATCH AREA
;
        ORG     248h    ;origin of WordStar terminal patch area
HITE    DB      24      ;24 lines on screen

        IF      WIDE
WID     DB      128     ;128 columns on screen
        ENDIF
        IF      NOT WIDE
WID     DB      80      ;80 columns on screen
        ENDIF

CLEAD1  DB      2,ESCAPE,"="  ;Cursor positioning routine
        DB      0,0,0,0,0,0   ;Room for expansion
CLEAD2  DB      0,0,0,0,0     ;Function not used by Osborne 1
CTAIL   DB      0,0,0,0,0     ;Function not used by Osborne 1
CB4FLG  DB      0             ;Function not used by Osborne 1
LINOFF  DB      32            ;Line offset amount
COLOFF  DB      32            ;Column offset amount
ASCUR   DB      0,0,0,0       ;Function not used by Osborne 1

        IF      SMOOTH
UCRPOS  JMP     WCUR          ;Get cursor position
        ENDIF
        IF      NOT SMOOTH
UCRPOS  DB      0,0,0C9h      ;Not used if terminal emulated
        ENDIF

        DW      IOUT          ;WordStar output routine
        DB      0,0,0,0       ;Reserved bytes
```

```
ERAEOL  DB    2,ESCAPE,54h  ;Erase to end of line sequence
        DB    Ø,Ø,Ø,Ø       ;Room for expansion
LINDEL  DB    2,ESCAPE,52h  ;Delete line sequence
        DB    Ø,Ø,Ø,Ø       ;Room for expansion
LININS  DB    2,ESCAPE,45h  ;Insert line sequence
        DB    Ø,Ø,Ø,Ø,Ø,Ø   ;Room for expansion
IVON    DB    2,ESCAPE,29h  ;Highlighting ON sequence
        DB    Ø,Ø,Ø,Ø       ;Room for expansion
IVOFF   DB    2,ESCAPE,28h  ;Highlighting OFF sequence
        DB    Ø,Ø,Ø,Ø       ;Room for expansion
TRMINI  DB    8,'O C C -1'
TRMUNI  DB    8,'O C C -1'
INISUB  JMP   ITERM         ;Initialize terminal routine
UNISUB  JMP   XTERM         ;End of session terminal routine
USELST  DB    1             ;Enable character in last position to show
        DB    Ø,Ø,Ø         ;Reserved bytes for expansion
DELCUS  DB    5             ;Delay after cursor set
DELMIS  DB    3             ;Delay after other functions
;
; The following section contains the primary code which implements
; smooth scrolling on the Osborne 1.  Be careful when modifying this
; section.
;
        IF    SMOOTH
MEMAPV  DB    1             ;Use memory-mapped video
MEMADR  DB    SCREEN        ;Screen location
        ENDIF
        IF    NOT SMOOTH
MEMAPV  DB    Ø             ;Use terminal drivers
MEMADR  DB    Ø,Ø           ;No memory address needed
        ENDIF

        IF    HILITE
HIBIV   DB    8Øh           ;Use underline
        ENDIF
        IF    NOT HILITE
HIBIV   DB    ØØh           ;No highlighting
        ENDIF
HIBCUR  DB    8Øh           ;cursor set on self
CRBLIV  DB    ØFFh          ;blink cursor on self
ZAFCIN  DW    Ø             ;Not needed for Osborne 1
RUBFXF  DB    Ø             ;Not needed for Osborne 1
RFIXER  DB    Ø             ;Not needed for Osborne 1

        IF    SMOOTH
UCNSTA  JMP   ØE5Ø6h        ;get console status from BIOS
UCONI   JMP   INCON         ;get console input
UCONO   JMP   OUTCON        ;send console output
        ENDIF
        IF    NOT SMOOTH
UCNSTA  DB    Ø,Ø,ØC9h      ;no special status routine
UCONI   DB    Ø,Ø,ØC9h      ;no special input routine
UCONO   DB    Ø,Ø,ØC9h      ;no special output routine
        ENDIF
```

Where do you go from here?

by JON ABBOT

Before I acquired my Osborne 1, I would have typed this manuscript on a 1923-vintage Underwood manual typewriter. The data-input and data-output rates of the Underwood '23 are exactly the same—somewhere in the vicinity of 50 words per minute, depending on how my transpositional fingers are functioning, and whether or not I decide to alter anything, once I've put it onto paper.

Now I sit communing with my electronic keyboard. Letters and words appear on the screen. I can change them, move them around, start all over again; but where do I go from here?

As a new owner of an Osborne 1, you may be asking yourself the same question: now that I have it, what am I going to with it, now that I have all this stuff on the screen and on diskettes. The questions assumes that you're not a hard-core computer afficionado who already has all sorts of ancillary equipment, or that you're not someone with extremely well-defined applications for which you purchased the machine.

Hard Copy

When I finish this manuscript, I'll face a problem: How am I going to deliver it to the editor of *The Portable Companion?*—I don't have a printer. I could mail in the diskette on which the article resides, but in

light of the loving care that the USPS lavishes on fragile mail, I should seriously consider hand-delivering the disk—inconvenient.

Besides, in the long run, this computer is going to be of virtually no practical value anyway without a printer to produce printed versions of my masterpieces. Since I plan to use my Osborne almost exclusively for "word processing" (what we used to call "writing" in precomputer days), I'm going to concentrate on printers in this article.

If buying a printer were simply a matter of esthetic choice, I'd get myself a letter-quality printer, with which I could underscore words and make them boldface. Some letter-quality printers produce copy so well defined that the printouts are suitable as camera-ready text for offset-printing reproduction.

For this quality, however, you have to pay—in most cases, more than you shelled out for the Osborne itself.

For less money, you can get one of the many dot-matrix printers available, but dot-matrix print—as its name implies—looks like something compulsively stippled by a latter-day pointilist.

Say you're looking for a job. You have several prospects, and you want to tailor your resume slightly for each position. A personal computer is a great tool for the task—you just put the basic resume on disk and then alter it for each job. For such a task you really don't want to use a dot-matrix printer—not very impressive.

The accompanying article, while only a *brief sketch*, may help you evaluate your printer needs in relation to the cost of the new printer. As always, when buying new auxiliary equipment for your Osborne 1, check with a reputable computer dealer and read computer literature, especially this publication.

'Flea Markets'

To save money—but lose the luxury of a warranty—you may want to consider buying a used printer. Check the classifieds in computer publications or go to computer-club and users' group meetings. The preeminent group for Osborne owners is the First Osborne Group, FOG (see User Groups, starting on page 46).

How about a computer "flea market"? Computer Swap America, the brainchild of John Craig, is one

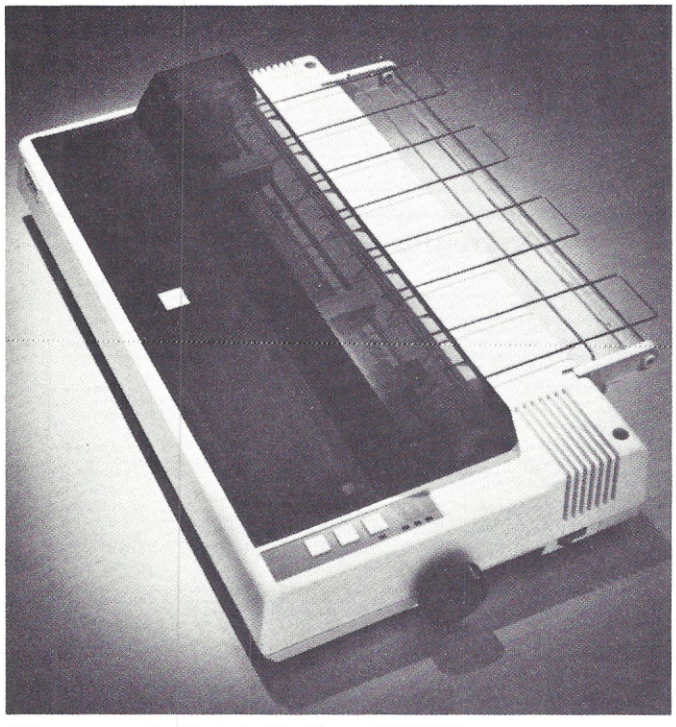
The Infoscribe 1000

The Digital Deli, in Mountain View, California, is fairly typical of the computer stores that are springing up all over the world. It's well stocked with hardware and software. Among the equipment the Deli sells are printers.

Says Byron McKay, a Deli employee, "There are very few, if any, printers [the Osborne 1] won't work with."

A sampling of what you can get for your Osborne computer at the Digital Deli:

- Epson MX-80, MX-80F/T and MX-100. These Epson printers are all of the dot-matrix variety. The MX-80 is the least expensive printer for the Osborne that the Deli carries. At $645 retail, the MX-80 is an 80-character-per-line (normal operation) serial-impact printer, with a 9 × 9 matrix. It prints bidirectionally, 80 characters per second (CPS), a full 96-character ASCII character set with descenders. Four printing sizes are available: *normal*, ten characters per inch; *normal expanded*, five characters per inch; *compressed*, 16.5 characters per inch; and *compressed expanded*, 8.25 characters per inch. The MX-80 handles paper with an adjustable tractor-type pin-feed mechanism.
- For $100 more, you can get a souped-up version of the MX-80, the MX80F/T. The basic difference between the two printers is that the F/T has a removable tractor mechanism, so you can feed paper through with either the tractor or the friction method.
- The $995 MX-100 prints 136 characters per line at the normal print setting and can use 14-inch wide printer paper.
- Two more dot-matrix printers that work with the Osborne come from Infoscribe. The Infoscribe 500 is an impact wire-matrix printer, also using a 9 × 9 matrix. It prints bidirectionally at 150 cps. A 96-ASCII-character set is available, as print-configuration variations on the standard characters. Adjustable tractors push paper through the $1595 Infoscribe 500. For $300 more, you can have the more advanced Infoscribe 1000.
- If money is no object, for $3495 you can get yourself a letter-quality 80-cps Fujitsu daisy-wheel printer—or a NEC 5500D Spinwriter, which spins out characters at the rate of 55 per second. These printers produce



14" paper easily fits into the Epson MX-100

beautiful characters, but since they cost almost twice as much as the Osborne, their purchase seems to be something of a luxury. The 35-cps NEC 3500D Spinwriter would run you a grand less.

- The Diablo 630 is a 55-cps daisywheel printer that goes for $2795. The printwheels are a combination of plastic and metal. A tractor feed for this printer is an additional $325.
- Shortly, the Digital Deli plans to stock a 16-cps Brother letter-quality printer that will retail for $1100. Look for it in your area.
- Printing at about the same cps rate (17.5) is the Olympia ES 100 electronic typewriter. The ES 100 also functions as an electric typewriter, so you have "two concepts in one system." To achieve this dual conception, however, you have to have a connecting device, called an "interface," between the Osborne and the $1495 ES 100.

McKay of the Deli says that the store eventually plans to stock a laser ink-jet printer that will work the Osborne, "for purely industrial purposes. We don't think there'll be too many domestic applications for that."

such event. Craig has scheduled five of these computer conclaves for 1982—three in Orange County, California, and two in San Jose, California; he says he plans to take his swap cross country.

"Finding a letter-quality printer at these shows is not difficult," Craig indicates. He says he once bought one for $1000, and shortly thereafter, someone offered him $1300 for it.

As of this writing, the latest Computer Swap America was slated to be held in late April in San Jose. Two auctions were on the agenda, and Craig has a startling approach to bidding on that piece of equipment that's caught your eye. He suggests that you decide in advance the maximum amount you want to pay for what you covet while everybody else is still in the preliminary bidding stages. "Rip in there with [your bid] and knock everybody off their socks!"

On the East Coast, a similar event is the Trenton Computer Festival, held in Trenton, New Jersey, each April, Craig notes. The telephone number for this event is (609) 771-2487.

As a last resort, if you know someone with an Osborne-compatible printer, and you can gain access to it, there's always the borrowing approach. Due to various circumstances engendered by procrastination, I wasn't able to be a borrower. Consequently, I had to transcribe this article from the screen to an electric typewriter.

I think I'm going to buy a printer.

□

The C-Itoh Starwriter prints letter-quality text at 40 characters per second

DYNACOMP

Quality software for the OSBORNE - 1

GAMES

BRIDGE MASTER — **Price: $21.95 Diskette**

If you liked DYNACOMP'S BRIDGE 2.0, you will absolutely love BRIDGE MASTER. BRIDGE MASTER is a comprehensive bridge program designed to provide hours of challenging competition. Bidding features include the Blackwood convention, Stayman convention, pre-emptive openings, and recognition of demand bids and jump-shift responses. After playing a specific hand, you may replay the same hand, with the option of switching cards with your computer opponents. This feature allows you to compare your bidding and playing skills to BRIDGE MASTER. Bonuses for game contracts and slams are awarded as in duplicate bridge. Doubled contracts are scored based upon a computer assigned vulnerability. A score card is displayed at the conclusion of each hand. The score card displays a summary of total hands played, total points scored, number of contracts made and set, and % bids made. BRIDGE MASTER is clearly the best computer bridge program available.

DYNACOMP'S previous BRIDGE 2.0 customers may upgrade to BRIDGE MASTER for a nominal charge of $5.00 plus postage and handling (see ordering information box).

POKER PARTY — **$23.95 Diskette**

POKER PARTY is a draw poker simulation based on the book, POKER, by Oswald Jacoby. This is the most comprehensive version available for microcomputers. The party consists of yourself and six other (computer) players. Each of these players (you will get to know them) has a different personality in the form of a varying propensity to bluff or fold under pressure. Practice with POKER PARTY before going to that expensive game tonight! Apple cassette and diskette versions require a 32K (or larger) Apple II.

MANAGEMENT SIMULATOR — **$29.95 Diskette**

This program is both an excellent teaching tool as well as a stimulating intellectual game. Based upon similar games played at graduate business schools, each player or team controls a company which manufactures three products. Each player attempts to outperform his competitors by setting selling prices, production volumes, marketing and design expenditures, etc. The most successful firm is the one with the highest stock price when the simulation ends.

FLIGHT SIMULATOR — **$23.95 Diskette**

A realistic and extensive mathematical simulation of take-off, flight and landing. The program utilizes aerodynamic equations and the characteristics of a real airfoil. You can practice instrument approaches and navigation using radials and compass headings. The more advanced flyer can also perform loops, half-rolls and similar aerobatic maneuvers. Although this program does not employ graphics, it is exciting and very addictive. See the software review in COMPUTRONICS. Runs in 16K Atari.

VALDEZ — **$21.95 Diskette**

VALDEZ is a computer simulation of supertanker navigation in the Prince William Sound. Valdez Narrows region of Alaska. Included in this simulation is a realistic and extensive 256 x 256 element map, portions of which may be viewed using the ship's alphanumeric radar display. The motion of the ship itself is accurately modelled mathematically. The simulation also contains a model for the tidal patterns in the region, as well as other traffic (outgoing tankers and drifting icebergs). Chart your course from the Gulf of Alaska to Valdez Harbor! See the software reviews in 80 Software Critique and Personal Computing.

BACKGAMMON 2.0 — **$23.95 Diskette**

This program tests your backgammon skills and will also improve your game. A human can compete against a computer or against another human. The computer can even play against itself. Either the human or the computer can double or generate dice rolls. Board positions can be created or saved for replay. BACKGAMMON 2.0 plays in accordance with the official rules of backgammon and is sure to provide many fascinating sessions of backgammon play.

SPACE EVACUATION! — **$19.95 Diskette**

Can you colonize the galaxy and evacuate the Earth before the sun explodes? Your computer becomes the ship's computer as you explore the universe to relocate millions of people. This simulation is particularly interesting as it combines many of the exciting elements of classic space games with the mystery challenge of ADVENTURE.

MONARCH — **$18.95 Diskette**

MONARCH is a fascinating economic simulation requiring you to survive an 8-year term as your nation's leader. You determine the amount of acreage devoted to industrial and agricultural use, how much food to distribute to the populace and how much should be spent on pollution control. You will find that all decisions involve a compromise and that it is not easy to make everyone happy. Runs in 16K Atari.

GO FISH — **$18.95 Diskette**

GO FISH is a classic children's card game. The opponent is a friendly computer with user inputs that are simple enough for small children to easily master. A must for children!

STARBASE 3.2 — **$17.95 Diskette**

This is the classic space simulation, but with several new features. For example, the Croylins now shoot at the Invincible without warning while also attacking starbases in other quadrants. The Croylins also attack with both light and heavy cruisers and move when shot at! The situation is hectic when the Invincible is besieged by three heavy cruisers and a starbase S.O.S. is received! The Croylins get even! See the software reviews in A.N.A.L.O.G., 80 Software Critique and Game Merchandising.

GAMES PACK I — **$18.95 Diskette**

GAMES PACK I contains the classic computer games of BLACKJACK, LUNAR LANDER, CRAPS, HORSERACE, SWITCH and more. These games have been combined into one large program for ease in loading. They are individually accessed by a convenient menu. This collection is worth the price just for the DYNACOMP version of BLACKJACK.

GAMES PACK II — **$18.95 Diskette**

GAMES PACK II includes the games CRAZY EIGHTS, JOTTO, ACEY-DUCEY, LIFE, WUMPUS and others. As with GAMES PACK I, all the games are loaded as one program and are called from a menu. You will particularly enjoy DYNACOMP's version of CRAZY EIGHTS.

Why pay $7.95 or more per program when you can buy a DYNACOMP collection for just $10.95?

MOON PROBE — **$16.95 Diskette**

This is an extremely challenging "lunar lander" program. The user must drop from orbit to land at a predetermined target on the moon's surface. You control the thrust and orientation of your craft plus direct the rate of descent and approach angle. Runs in 16K Atari.

CRANSTON MANOR ADVENTURE — **$19.95 Diskette**

CRANSTON MANOR ADVENTURE takes you into mysterious CRANSTON MANOR where you attempt to gather fabulous treasures. Lurking in the manor are wild animals and robots who will not give up the treasures without a fight. The number of rooms is greater and the associated descriptions are much more elaborate than the current popular series of Adventure programs, making this game the top in its class. Play can be stopped at any time and the status stored on diskette.

TYPE 'N' TALK

DYNACOMP is now distributing the new and revolutionary TYPE-'N-'TALK™ (TNT) speech synthesizer from Votrax. Simply connect TNT to your computer's serial interface, enter text from the keyboard and hear the words spoken. TNT is the easiest-to-program speech synthesizer on the market. It uses the least amount of memory and provides the most flexible vocabulary available anywhere!

TYPE-'N'-TALK List price $375. DYNACOMP'S price $319.95 plus $5.00 for shipping and handling.

MISCELLANEOUS

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BUSINESS and UTILITIES

PERSONAL FINANCE SYSTEM — **$39.95 Diskette**

PFS is a single diskette, menu-oriented system composed of ten different programs. Besides recording your expenses and tax deductible items, PFS will sort and summarize expenses by payee, and display information on expenditures by any of 26 user defined codes by month or by payee. PFS will even produce monthly bar graphs of your expenses by category! This powerful package requires only one disk drive, minimal memory. You can record checks plus cash expenses so that you can finally see where your money goes and eliminate guesswork and tedious hand calculation. PFS has been demonstrated on network (CBS) TV!

TAX OPTIMIZER — **$59.95 Diskette**

The TAX OPTIMIZER is an easy-to-use, menu oriented software package which provides a convenient means for analyzing various income tax strategies. The program is designed to provide a quick and easy data entry. Income tax is computed by all tax methods (regular, income averaging, maximum and alternate minimum tax). The user may immediately observe the tax effect of critical financial decisions. TAX OPTIMIZER has been thoroughly field tested in CPA offices and comes complete with the current tax tables in its data files. TAX OPTIMIZER is tax deductible!

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ABOUT DYNACOMP

DYNACOMP is a leading distributor of small system software with sales spanning the world (currently in excess of 50 countries). During the past three years we have greatly enlarged the DYNACOMP product line, but have maintained and improved our high level of quality and customer support. The achievement in quality is apparent from our many repeat customers and the software reviews in such publications as COMPUTRONICS, 80 Software critique, A.N.A.L.O.G., Softalk, Creative Computing and Kilobaud. DYNACOMP software has also been chosen for demonstration on network television. Our customer support is as close as your phone. It is always friendly. The staff is highly trained and always willing to discuss products or give advice.

EDUCATION

TEACHERS' AIDE — **$17.95 Diskette**

TEACHERS' AIDE consists of three basic modules contained in one program. The first module provides addition and subtraction exercises of varying levels of difficulty. The second module consists of multiplication problems in which the student may be tested both on the final answer and /or on the subtotal answers in the long hand procedure. Several levels of complexity are provided here as well. The third module consists of division problems; one particularly nice feature of the division module is that the long hand division steps can be displayed along with the remainder in order to clearly demonstrate the procedure by which the remainder is derived. Using TEACHER'S AIDE is not merely a drill, but rather a learning experience.

STATISTICS and ENGINEERING

DIGITAL FILTER — **$43.95 Diskette**

DIGITAL FILTER is a comprehensive data processing program which permits the user to design his own filter function or choose from a menu of filter forms. In the explicit design mode the shape of the frequency transfer function is specified by directly entering points along the desired filter curve. In the menu mode, ideal low pass, high pass and bandpass filters may be approximated to varying degrees according to the number of points used in the calculation. These filters may optionally also be smoothed with a Hanning function. In addition, multi-stage Butterworth filters may be selected. Features of DIGITAL FILTER include plotting of the data before and after filtering, as well as display of the chosen filter functions. Also included are convenient data storage, retrieval and editing procedures.

DATA SMOOTHER — **$23.95 Diskette**

This special data smoothing program may be used to rapidly derive useful information from noisy business and engineering data which are equally spaced. The software features choice in degree and range of fit, as well as smoothed first and second derivative calculation. Also included is automatic plotting of the input data and smoothed results.

FOURIER ANALYZER — **$23.95 Diskette**

Use this program to examine the frequency spectra of limited duration signals. The program features automatic scaling and plotting of the input data and results. Practical applications include the analysis of complicated patterns in such fields as electronics, communications and business.

TFA (Transfer Function Analyzer) — **$23.95 Diskette**

This is a special software package which may be used to evaluate the transfer functions of systems such as hi-fi amplifiers and filters by examining their response to pulsed inputs. TFA is a major modification of FOURIER ANALYZER and contains an engineering-oriented decibel versus log-frequency plot as well as data editing features. Whereas FOURIER ANALYZER is designed for educational and scientific use, TFA is a engineering tool. Available for all computers.

HARMONIC ANALYZER — **$28.95 Diskette**

HARMONIC ANALYZER was designed for the spectrum analysis of repetitive waveforms. Features include data file generation, editing and storage retrieval as well as data and spectrum plotting. One particularly unique facility is that the input data need not be equally spaced or in order. The original data is sorted and a cubic spline interpolation is used to create the data file required by the FFT algorithm.

FOURIER ANALYZER, TFA and HARMONIC ANALYZER may be purchased together for a combined price of $51.95 (three cassettes) and $63.95 (three diskettes).

REGRESSION I — **$23.95 Diskette**

REGRESSION 1 is a unique and exceptionally versatile one-dimensional least squares "polynomial" curve fitting program. Features include very high accuracy; an automatic degree determination option; an extensive internal library of fitting functions; data editing; automatic data, curve and residual plotting; a statistical analysis (eg. standard deviation, correlation coefficient, etc.) and much more. In addition, new fits may be tried without reentering the data. REGRESSION I is certainly the cornerstone program in any data analysis software library.

REGRESSION II — **$23.95 Diskette**

PARAFIT is designed to handle those cases in which the parameters are imbedded (possibly nonlinearly) in the fitting function. The user simply inserts the functional form, including the parameters (A(1), A(2), etc.) as one or more BASIC statement lines. Data, results and residuals may be manipulated and plotted as with REGRESSION I. Use REGRESSION I for polynomial fitting, and PARAFIT for those complicated functions.

MULTILINEAR REGRESSION (MLR) — **$28.95 Diskette**

MLR is a professional software package for analyzing data sets containing two or more linearly independent variables. Besides performing the basic regression calculation, this program also provides easy to use data entry, storage, retrieval and editing functions. In addition, the user may interrogate the solution by supplying values for the independent variables. The number of variables and data size is limited only by the available memory.

REGRESSION I, II and MULTILINEAR REGRESSION may be purchased together for $51.95 (three cassettes) or $63.95 (three diskettes).

ANOVA — **$43.95 Diskette**

In the past the ANOVA (analysis of variance) procedure has been limited to the large mainframe computers. Now DYNACOMP has brought the power of this method to small systems. For those conversant with ANOVA, the DYNACOMP software package includes the 1-way, 2-way and N-way procedures. Also provided are the Yates 2^{K-P} factorial designs. For those unfamiliar with ANOVA, do not worry. The accompanying documentation was written in a tutorial fashion (by a professor in the subject) and serves as an excellent introduction to the subject. Accompanying ANOVA is a support program for building the data base. Included are several convenient features including data editing, deleting and appending.

BASIC SCIENTIFIC SUBROUTINES, Volumes 1 and 2

DYNACOMP is the exclusive distributor for the software keyed to the popular texts ***BASIC SCIENTIFIC SUBROUTINES, Volumes 1 and 2*** by F. Ruckdeschel (see advertisements in BYTE magazine). These subroutines have been assembled according to chapter. Included with each collection is a menu program which selects and demonstrates each subroutine.

Volume 1

Collection #1: Chapters 2 and 3 – Data and function plotting; complex variables and functions.
Collection #2: Chapter 4 – Extended matrix and vector operations.
Collection #3: Chapters 5 and 6 – Random number generators (Poisson, Gaussian, etc.); series approximations.
Price per collection: $20.95 Diskette.

All three collections are available for $53.95 (three diskettes).

Volume 2

Collection #1: Chapter 1 – Linear, polynomial, multidimensional, parametric least squares.
Collection #2: Chapter 2 – Series approximation techniques (economization, inversion, reversion, shifting, etc.).
Collection #3: Chapter 3 – Functional approximations by iteration and recursion.
Collection #4: Chapter 4 – CORDIC approximations to trigonometric, hyperbolic, exponential and logarithmic functions.
Collection #5: Chapter 5 – Table interpolation, differentiation and integration (Newton, LaGrange, splines).
Collection #6: Chapter 6 – Methods for finding the real roots of functions.
Collection #7: Chapter 7 – Methods for finding the complex roots of functions.
Collection #8: Chapter 8 – Optimization by steepest descent.
Price per collection: $18.95 Diskette.

All eight collections are available for $129.95 (eight diskettes).
Because the texts are a vital part of the documentation, ***BASIC SCIENTIFIC SUBROUTINES, Volumes 1 and 2*** are available from DYNACOMP.

BASIC SCIENTIFIC SUBROUTINES, Vol. 1 (319 pages): $19.95 + 75¢ postage
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See reviews in KILOBAUD and Dr. Dobbs.

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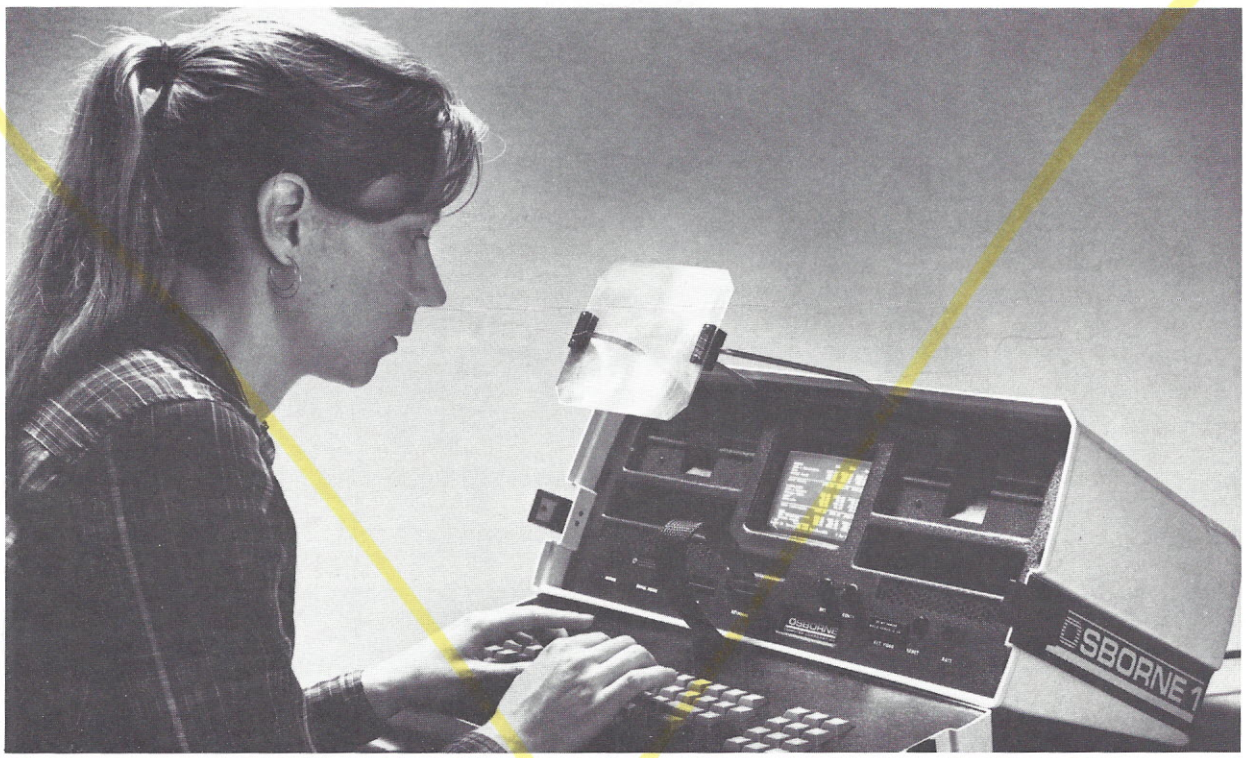

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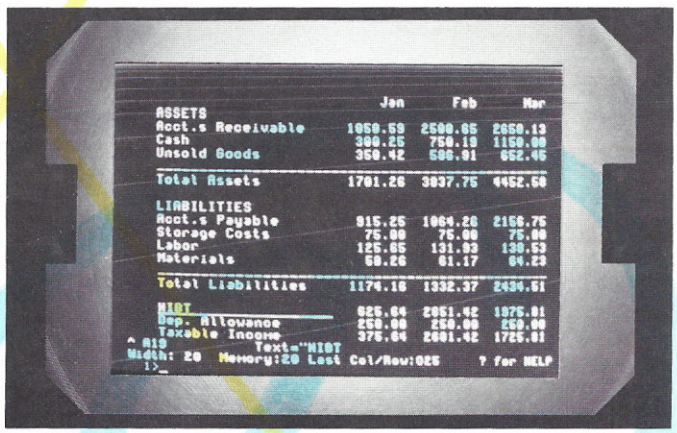

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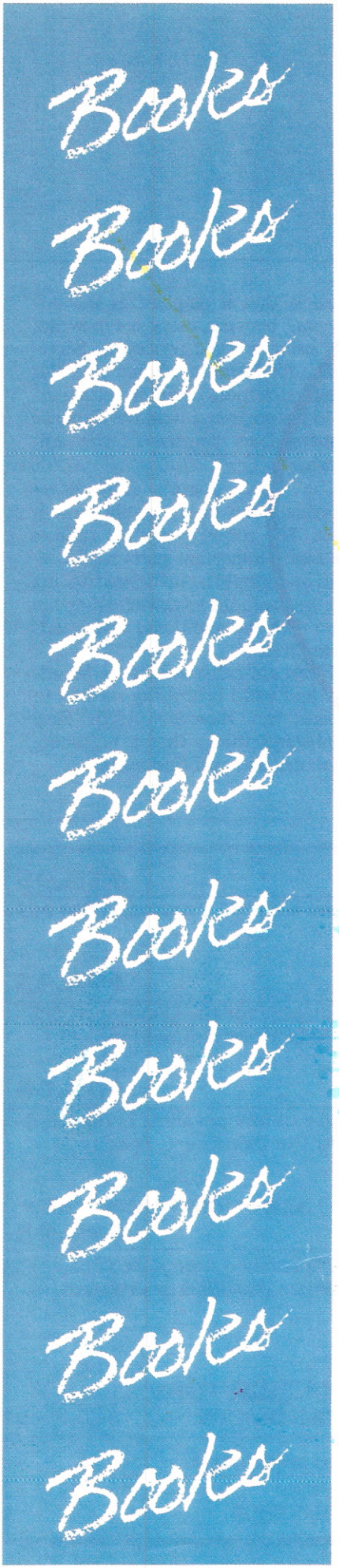

Each issue we'll be presenting capsule summaries of books that may be of interest to Osborne 1 owners. Such reviews do not reflect the endorsement of Osborne Computer Corporation, and are presented for informational purposes only.

The BASIC Conversions Handbook for Apple, TRS-80 and PET Users
by David A. Brain, et. al.
Rochelle Park, NJ: Hayden Book Company, $7.95

For some time one of the most often asked questions by users of the BASIC programming language has been "how do I convert a program in one BASIC to another?" David Lien's *BASIC Handbook* was one solution, providing dictionary-like entries for every BASIC command in several dozen different dialects of the language.

Now comes another attempt, one which attempts to actually equate the Apple, TRS-80 and PET versions of BASIC.

You may wonder why such a book would be of interest to Osborne owners. While not emphasized by Osborne, the version of Microsoft BASIC supplied with the Osborne 1 is virtually the same as TRS-80 Disk BASIC. The primary differences are in that the TRS-80 has some video and graphic commands that do not exist on the Osborne version.

The BASIC Conversions Handbook, therefore, is useful to Osborne owners who wish to convert programs from Apple or PET computers to the Osborne 1. You'll have to keep the graphics differences in mind, of course, but much of the other conversion factors are well presented in this book.

This book is not really meant to be read. Instead, it functions mostly as a reference work. The appendices contain valuable information for conversion of programs, including some useful subroutines, some sample conversions, screen coordinate conversions, and so on.

If you're into BASIC programming and are interested in getting Apple or PET programs running on your Osborne 1, take a look at this small, but helpful book.

BASIC Programming for the Financial Executive
by Thomas J. Humphrey
New York: John Wiley & Sons

While on the subject of programming in BASIC, this book—*BASIC Programming for the Financial Executive*—may help you make the conversion from learning the language commands to learning how to make the leap from conceptualization of a problem to actual program code.

Humphrey does little explaining about what BASIC commands do, he assumes that you can get that information from your manual, and rightfully so. Instead, he presents problems and then shows how BASIC can be used to solve them. Among the programs to be found in this book are: sinking-fund loans, mortgage-type loans, compounding and discounting, leases, leveraged leases, and lease versus buy decision-making.

One of the best things about this book, however, is that Humphrey make a good presentation of exception and error handling; it is obvious that the author places a high emphasis on making sure a program is "correct," not that it seems to run. It is a shame that Humphrey's approach is the exception in the industry, not the rule.

In short, *BASIC Programming for the Financial Executive* will find its home with those who can already program but need to learn more about the problem-solving aspects of the craft.

8080/Z80 Assembly Language: Techniques for Improved Programming
by Alan R. Miller
New York: John Wiley & Sons, $9.95

Alan Miller writes regularly for *Interface Age* magazine. His specialty has been assembly language programming and CP/M, two subjects on which little of lasting value has been written. Because of the lack of information about these subjects, Miller's book should be read by

Books

anyone attempting to understand assembly language programming in the CP/M operating environment.

The book serves partially as an introduction to assembly language, although it is not as successful at this as it could or should be. The real value is in the routines and development of larger "tools" that begins almost at the beginning of the book and continues right to the end.

There is no mystery or magic to the information presented in this book. This is a tribute to Miller, who manages to take a complicated and often mystical subject and present it in clear, understandable terms. While computer novices might bite off more than they can handle by reading this book, with a little computer background, assembly language programming will become clearer to most readers.

WordStar Made Easy
by Walter A. Ettlin
Berkeley: Osborne/McGraw-Hill

The manual that comes with your Osborne 1 computer features both a tutorial and a reference section describing how WordStar operates.

For some users, especially those new to computing, this may not be enough for them to completely make the transition from computer novice to computer user. *WordStar Made Easy* might make the transition easier.

This slim volume is not intimidating, and is meant to be used at computerside. One nice aspect of the book is that it emphasizes the differences between using a typewriter and using a word processor. Secretaries, for instance, should find this book much more useful in getting used to the computer than the Osborne 1 manual set because of this emphasis.

The book doesn't fully cover WordStar, nor does it really claim it does. The subset presented reflects the really important parts of WordStar, and should be sufficient to bring any novice to the level where they can cope with the additional commands themselves.

There are other books on WordStar and word processing starting to appear, but *WordStar Made Easy* emphasizes things that a beginning computer user will find useful. □

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We are not going to put a dab of red glue on the screws on the front of our case to let our dealers know when someone has tampered with their Osborne 1 computer. We're reasonable folks, and we hope you are, too.

If you **DO** get inside your Osborne 1 and make modifications to it of any kind, your warranty is no longer valid. This includes anything from replacing a disk drive to changing an IC. Even the simple act of removing a ROM and replacing it with a new one can have profound impact on the performance of the computer (IC sockets do wear out, and they wear out fast when IC's are removed quickly or unevenly).

Therefore, we have the following no-nonsense attitude to your modifications of an Osborne 1: if you modify an Osborne in any way, the warranty is no longer valid and repairs will be made at their full cost. You are, of course, free to modify your Osborne to your heart's content, and we have no intentions of keeping you from doing so. □

The Portable Companion is always looking for articles, tips, and other editorial material for use in the publication. Editorial material in this magazine is compensated for at a minimum of $25 per printed page. Manuscripts submitted for possible publication should be accompanied by sufficient first-class postage for return if you want us to send back unaccepted manuscripts. We cannot be responsible for lost manuscripts or photos, so keep a copy!

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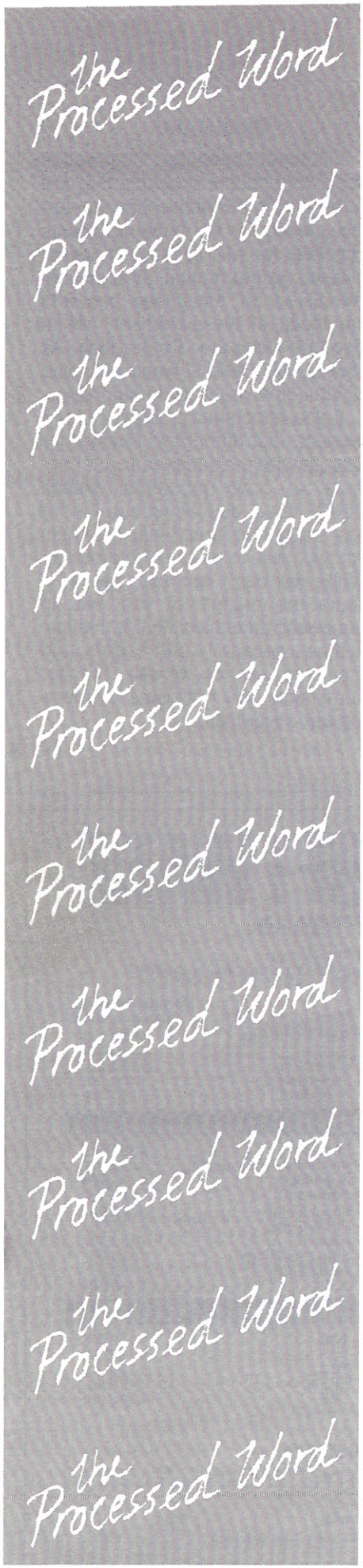

Words to the Wise

by Mike Iannamico

Before coming to work at Osborne Computer Corporation, I had never been exposed to word processing and, for that matter, rarely used a typewriter. Writing and rewriting in longhand, then passing copies to a typist, was standard and preferred fare. I believed that entering data through a keyboard would somehow impede or stifle the fluency of thought, especially with my hunt-and-peck style of typing.

My illusions were utterly dispelled the moment I began using WordStar. There certainly will always be some lapse between the conception of an idea and the actual physical construction of a passage of text, but no matter how sluggish your typing is, word processing compensates by providing the ability to easily manipulate text and conceptual presentations.

The first word processing system I used consisted of a SOL computer—like the Osborne 1, it was designed by Lee Felsenstein. Two different disk drives with a homemade controller provided disk storage, and a 10-year-old, 9-inch, Motorola television served as the monitor. The semi-pseudo software accompanying this elephantine contraption included an early North Star Disk Operating System, two CP/M utilities—PIP and STAT—and a 0.93 version of WordStar. For the first six months of my tenure at Osborne, this assortment of wares was the only working computer on the OCC premises.

The hardware portion of this word processing system served its purpose quite well, but the exceptionally limited software proved to be an experience in hindrance. You see, WordStar 0.93 had no provisions for copying, writing, renaming, or running programs. Combined with the already limited CP/M utilities was another restriction: the only way to examine and manipulate files was to leave WordStar, and then choose between PIP and STAT. As if this wasn't enough of an initiation rite, WordStar 0.93 had no provisions for recovering text once I encountered a diskette-full condition. This resulted in the immediate loss of everything I had typed since the file was opened and usually occurred following an intense brainstorming session.

Those frustrating moments still haunt me, as does the time I was trying to decipher MailMerge on the basis of its documentation alone, and, feeling someone's presence, turned around to see Seymour Rubenstein—president of MicroPro International, the creator of WordStar and MailMerge—peering through the window, dubiously inspecting my compositon.

In spite of all the lost time and the fact that that old SOL setup now seems terribly antiquated, at the time it far surpassed any previous method of documentation I had encountered. You first-time computer owners just don't know how lucky you are to get a fully integrated word processing package like the Osborne 1.

Of course, once I got my Osborne 1 with its newer versions of CP/M, WordStar, and MailMerge, it was like switching from a burro to a thoroughbred racing horse. A good portion of the *User's Guide* was composed on the Osborne 1, and all of it with WordStar. Fancy, if you will, that the WordStar and MailMerge tutorials were written for the Osborne 1, on the Osborne 1, using WordStar and MailMerge.

WordStar is extremely easy to learn because of the reference menus—that is, once you understand the terminology and methods involved. It's wise to read the WordStar tutorial in the *User's Guide* to acquaint yourself with the various features and how they are put into practice. Then, jump right in and start word processing, by trial and error, if necessary. When you need help, consult the "Reference Guide."

I guarantee you will make a large number of errors to begin with, but like a mouse with a maze, you'll gradually memorize the intended tasks.

Which brings me to some suggestions for using WordStar.

If, for any reason, you want to see everything displayed within the boundaries of the screen, simply change the right margin to 52. This alteration is sometimes useful for quickly scanning or editing large documents. After reviewing the document, change the right margin back to 65, turn Hyphen Help OFF, reformat the entire file using ^QQ^B, and it's ready to print. Alternatively, you can leave the right margin set at 52 and use the MailMerge command .RM 65 to change the margin when you merge-print the document.

Consider the preceding scenario about screen size for a moment: it is evident that a function key could be programmed to change the right margin to 52. Going a step further, you could also turn Hyphen Help OFF with ^OH and reformat the entire file with ^QQ^B, all with the same function key. Theoretically, you could get downright lazy and have another key programmed to change the right margin back to 65, reformat the file, save it, and print it (^OR65 <cr> ^QR ^QQ ^B ^KS ^KP^R <esc>, for example).

You should program your function keys with respect to those word processing functions you most frequently use. Some of the more obvious commands to program include: block, cursor movement, center line, paragraph tab, find and replace, repeat, and save. The underline, boldface and other print controls can also be programmed. The run-a-program command (R) can be used in conjunction with XDIR or STAT to examine diskette space from within WordStar. Also, depending upon whether you have double density or not, you might run a spelling check program like Spellguard. Here's one example of how the function keys could be programmed in WordStar:

0: LB: <cr>D logs onto drive B and edit file
1: ^OR52 <cr> ^OH ^QQ ^B1 changes right margin to 52 turns off Hyphen Help, reformats file at fastest rate
2: ^QR moves cursor to start of file
3: ^QC moves cursor to end of file
4: ^OC centers current text line
5: ^OD turns OFF or ON the print

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WORDSTAR – MICROPRO INT., SUPERCALC & PASCAL/M – SORCIM, GRAMMATIK – ASPEN, dBASE II – ASHTON TATE

control characters
6: .PA start new page
7: ^PB turns the boldface option OFF or ON
8: ^KS ^QP saves file and returns to where you left off
9: RSP <cr> runs Spellguard

Another modification you can make that's a bit more technical, but nonetheless interesting, entails using DDT to change the meaning of the left arrow key so it will function as a DEL key. Unless you know CP/M fairly well and have some familiarity with assembly language, it is not recommended that you attempt this alteration. There is no real danger in trying, however, as long as you experiment with a COPY of your original WordStar diskette. If you find this alteration to be over your head but really want DEL key, consult a knowledgeable friend or a user group, or ask your authorized Osborne dealer for assistance.

1. First, place a copy of the WordStar diskette to be altered in drive B.

2. Place a diskette containing MOVCPM and DDT in drive A and start the system by first pressing RESET, then RETURN.

3. If you have single density, type MOVCPM 60 * <cr> to create a memory image of the operating system. If you have a 1.4 ROM Osborne (extremely new) or double density, type MOVCPM 59 * <cr>. Follow the instructions displayed on the screen for saving the newly configured operating system (i.e., SAVE 39 CPM60.COM or SAVE 39 CPM59.COM).

4. Now you are ready to perform the delicate surgery. With the A> prompt present, type DDT CPM60.COM <cr> (or DDT CPM59.COM <cr>). A hyphen signifies that DDT (Dynamic Debugging Tool) is active.

5. Type L0 and press RETURN. Observe the first address of the BIOS jump table that is presented to you. There are three possible choices:

version 1.2	E603
version 1.2,1.3	E503
version 1.4,dd	E103

Make note of this address and follow the rest of the instructions accordingly.

6. Type: D2000 <cr>. After typing this address, you should see a section of assembly language code where AUTOST and the function key definitions are located. The next four places after the last function key definition are the arrow key interpretations. The series of numbers on an unmodified system should be 0b, 0c, 0a, and 08, in that order.

7. Proceed, depending upon the jump vector noted in step 4:

if E603 or E503, type S201C <cr>
if E103 type S202F <cr>

8. After entering one of the above numbers, follow these steps:

a. The number displayed should be 0B. To alter this code, type 5 and press RETURN.

b. The next code you see is 0C. Type 4 and press RETURN.

c. Next you see 0A. Type 18 and press RETURN.

d. The last code to alter is 08. Type 7F (the DEL character) and press RETURN.

e. The next code is displayed, but since you are through making modifications, type a period followed by a RETURN and then issue a ^C.

9. When the A> prompt returns, type SYSGEN, press RETURN as the source of the system, and enter B for the destination. The newly configured system will be written to the WordStar diskette, thus completing the modification. When you next boot WordStar, the left arrow key should destructively backspace the cursor, while the other keys should move the cursor according to the direction of the arrow.

Well, your eyelids have probably been bent just about enough for the time being. I hope something presented here was of value and interest to you. It is intended that this column address the full scope of word processing users and serve as a medium for clarifying misleading, overlooked, or otherwise missing information.

In the future this column will be devoted to a wide range of word processing application programs and ancillary procedures. Suggestions and contributions are encouraged; I want this to become a true forum on word processing.

The world agrees
He that writes well who writes with ease.

—Prior

□

Mating with WordStar

With the Osborne-approved software available, anybody can produce a totally polished, finished document. For instance, in doing documentation for Osborne I regularly use WordStar to compose and format the text, Spellguard to proof the spelling, Grammatik to examine word usage and sentence structure, Pair to check for matching control characters, Documate to build a table of contents and index, and MailMerge to print my files in succession. In addition, Enumerate allows me to create drafts with each line numbered for later reference, while Footnote allows me to correctly number and format footnotes in text I create. And if I need simple math capabilities, I don't have to use SuperCalc—I merely use my copy of WordStar in which I have imbedded Math*. These are just the WordStar-compatible software products Osborne has introduced in the first six months of its software acquisition program; I can hardly wait to see what word processing utility comes next . . .MI

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Hard Disks to Boot

Micro Computers of New Orleans has announced that they are now selling 5- and 10-megabyte hard disk drives for the Osborne 1. The drives are connected to the Osborne by removing the Osborne's Z80 chip and connecting the hard disk interface. Both the serial and IEEE-488 ports are therefore free to be used for printers or other peripherals.

Cost of the units is $3000 for the 10-megabyte and $2500 for the 5-megabyte model.

Micro Computers of New Orleans
4539 I-10 Metairie
New Orleans, LA 70002
504-885-5883

Trantor Systems has also announced 5- and 10-megabyte hard disk drives for the Osborne 1. The Trantor TSL-5 and TSL-10 drives come with a cable that plugs into the Osborne's IEEE-488 interface.

In normal operation, the Trantor system operates as logical drives A and B, with the Osborne floppy disk drives becoming C and D. These drive assignments can be easily reversed. Also included with the system is a utility that allows the archiving of the hard disk onto floppy diskettes.

Price for the 5-megabyte system is $2995, with the 10-megabyte system retailing for $3495.

Trantor Systems, Ltd.
4125 Tumbleweed Court
Union City, CA 94587
415-471-9371

The Real Software Scoop

It's taken some time to get the Osborne Approved Software program off the ground, but by the time you read this it will be in full steam.

Products released through April included:

- Spellguard
- Micro Link
- Datebook
- Documate
- Disk Doctor
- SuperSort
- MailMan
- Milestone
- DataStar
- dBase II
- BSTAM
- MBASIC Compiler
- The Software Works FORTH

In addition to these 13 products, 9 new products have been added to the list, with 10 more anticipated in the next two months. Newly released packages include:

MATH* This program interacts with WordStar to add basic math capability to your word processing. Math* performs addition, subtraction, multiplication and division and allows you to perform these functions either in rows or columns of figures. $49.95

Enumerate For those of you who need to add line numbering to your word-processed documents, Enumerate is the program you've been waiting for. Enumerate allows you to number WordStar documents by line, paragraph, or any sequential patterns, and is ideal for attorneys or others who must number their documents. $49.95

Personal PEARL The easiest way to create custom application programs with your Osborne computer is Personal PEARL. Personal PEARL asks you for examples of the results you require and then produces the application program to create those results. Personal PEARL is for the individual who requires custom computer solutions without the cost and time delay of hiring a programmer. This product is the first in a series of special application generators that will be available from Osborne Computer Corporation. $295.

Filefax Filefax is a database management system designed as a filing system for the business person who wants a program that is simple to learn and easy to operate. Filefax is scheduled to appear in August. $185.

Footnote Footnote numbers and

formats footnote calls and the actual notes in WordStar text files. Footnote numbers notes consecutively, then formats the file, placing the notes at the bottom of the appropriate page, or, at the user's option, moving them out of the text to a separate footnote file. $75.

Other Osborne Approved Software you might want to know about are Money Maestro, Supervyz, Microstat, and Utilyz. If you're interested in finding out more about Osborne Approved Software, send your name and address to:

Catalog Request
Osborne Approved Software
26500 Corporate Avenue
Hayward, CA 94545

Double Your Pleasure

Osborne's double density option for the Osborne 1 computer is now being shipped to dealers. Price for the option is $185, plus a small installation fee to be priced by the installing dealer. No modification of the existing drives or electronics is necessary in most cases; only a small add-on board and a new ROM are added to the machine.

Double density, in addition to doubling the data storage capacity of each drive to 184K, has a built-in flexibility unequaled by any other microcomputer manufacturers' disk units. Besides reading and writing Osborne single and double density, the double density option will automatically recognize Xerox 820, IBM Personal Computer (CP/M-86), Cromemco single-sided, single-density, and DEC VT-180 diskettes.

What this means is that for the first time a computer user can have the convenience of diskette interchangeability without the inconvenience of using special "transfer" programs. An Osborne owner who also has a Xerox 820, for instance, is able to take a Xerox diskette, put it in drive B on his Osborne, and immediately begin using the data files on that diskette. The double density software automatically checks the format of a diskette before using it, and diskette changes can be made without inform-

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ing the computer (although to write information onto the diskette, a ^ C or change of logged disk drive command must be issued). Provision is even made for performing warm starts from alternate format diskettes, allowing an Osborne 1 owner to use Xerox, IBM, or DEC diskettes in BOTH DISK DRIVES AT THE SAME TIME.

In addition to the double density and alternate density features of the new option, users who start the system with an old, single-density diskette will find that everything remains unchanged—double density maintains full compatibility with the current release single density Osborne product.

Three From Nevada

Ellis Computing has introduced three software packages that work on the Osborne 1 computer.

Nevada COBOL is claimed to be 4 to 20 times faster than any other microcomputer COBOL now available. Osborne owners can compile and execute up to 5500 statements. Based upon ANSI-74 standards, Nevada COBOL features compound conditionals and a full CALL CANCEL command. Nevada COBOL lists for $199.95.

Nevada PILOT by John Starkweather provides Osborne owners with a language well-suited to training, programmed instruction, and other interactive applications. A built-in screen text editor is also included. John Starkweather is the inventor of the PILOT language, and put together this new release. Nevada PILOT lists for $149.95.

Nevada EDIT is a character-oriented full-screen video display text editor designed specificially to create COBOL, BASIC, Pascal, and FORTRAN programs and features user-definable tab stops, default file types, keyboard layout and CRT selection by preprogrammed menus. Nevada EDIT lists for $119.95.

Ellis Computing
600 41st Avenue
San Francisco, CA 94121

IBM & Osborne

The MEDIAMIX ETI² converts any IBM Electronic Typewriter into a computer printer compatible with the Osborne 1 and its associated software. Available in either a Centronics-type parallel model or a standard RS-232C serial modem, the ETI² provides Osborne 1 owners with a low-cost alternative to a single-function letter-quality computer printer.

The MEDIAMIX ETI² provides access to all of the typewriter's automated functions, including underlining, centering, tabbing, and so on. This capability permits the user to blend the best features of WordStar, the ETI², and the IBM typewriter into a very powerful word processing system. Not only that, but the user can access these printing effects in SuperCalc, MBASIC.

MEDIAMIX
PO Box 67B57
Los Angeles, CA

Gametime for Ozzie

Four game programs are available on one diskette from Mirashanta. The games are programmed in CBASIC and come ready-to-run. Included are 1DMAZE, 3DMAZE, BOUNCE, and LANDER. The games are designed to be played in pairs, with one of the pair being simpler to learn and win than the second.

Mirashanta
2008 Deerark Place #350
Fullerton, CA 92631

□

continued from page 27

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Orange, CA 92665

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Portland, OR 97229

Jay Siegel
Boston Users Group
165A Mt. Vernon Street
Boston, MA 02108

Other Osborne user groups exist, but we have yet to recieve addresses and contact names for them. In addition, FOG now maintains contacts in the following cities:

Phoenix, AZ	Boston, MA
Berkeley, CA	Ann Arbor, MI
Cotati, CA	St. Paul, MN
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Monterey Bay, CA	Rochester, NY
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San Diego, CA	Westerville, OH
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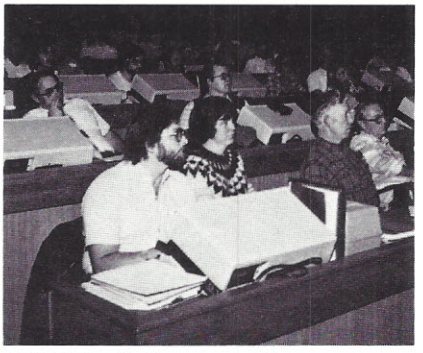

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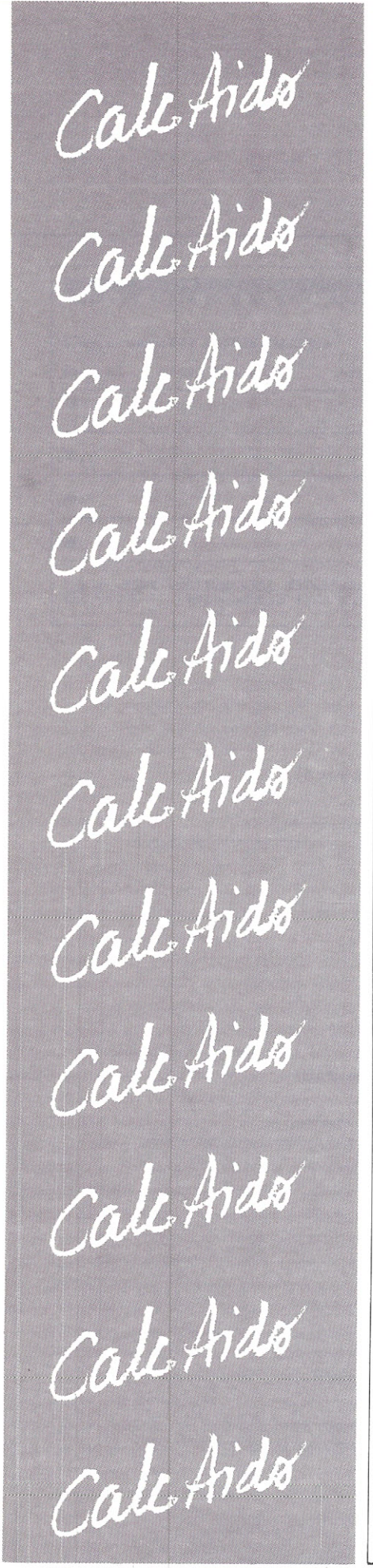

Expense Reports Made Easy

A SuperCalc Aid from Osborne

In May, 1982 Osborne Computer Corporation introduced the first of a series of software products called CalcAids™. Essentially a blank template (form) to be used with SuperCalc to solve a specific problem or prepare a particular form, we decided to carry over the CalcAid idea—albeit with simpler templates—into *The Portable Companion.*

Each issue we'll present a simple template. You may use the CalcAid just as we present it, or, if you're adventurous, can use our suggestions as a starting point for more complex templates.

* * *

Our first published CalcAid is one used by several of the Osborne staff—an expense report form.

The problem solved by this CalcAid is a simple one: when most employees return from a company-sponsored trip they must fill out an expense report form. The purposes of such forms are many, but the principle use is as a supporting document to justify corporate expenses to the Internal Revenue Service. Generally, most firms ask that any expense over $5 listed on the form be accompanied by a receipt for that item. In these days of burdensome paperwork and extensive travel, some executives find that keeping track of the necessary information is not only difficult, but sometimes impossible.

Thus, the Expense Report CalcAid. When traveling with your Osborne 1 computer, simply take a few minutes each evening to add the day's expenses to the report. When you get back to the office, everything has been added up for you, and you simply enter a few other pieces of information (some companies require that you justify that the trip was for business purposes by listing the amount of time spent on purely business items, for example). Just hook up your printer and output the resulting form to a piece of paper. Some users find that one of the diskette pockets on the Osborne 1 makes a good storage place for receipts; if you store receipts in a diskette pocket, take them out, staple them to the printed report, and turn it in for reimbursement.

A few comments about the format of the form are in order. The format we used for this CalcAid is one that is commonly used (you can get a pad of expense report forms like this one at most stationary or office supply stores). From an accounting standpoint, this form has several advantages, as it not only breaks out expenses day by day, but also totals expenses by category. We've shortened the form slightly from its hardcopy counterpart, but you should be able to easily add additional information, should you so desire. The following is the Contents output from the Expense Report Form CalcAid. Simply enter the information (it may be titled, formulas, or other predetermined information) that is listed for each cell. When you're done, save your work under the file name EXPENSE.CAL. To use, load EXPENSE.CAL, enter information into the preformatted, blank areas as appropriate, then print out the results. Happy traveling!

Calc Aids

Expense Report Form

```
SuperCalc Ver.  1.Ø5
ENTER INFORMATION, THEN /O D A4:P54 P TO PRINT
A1 TL    P= "ENTER INFORMATION, THEN /O D A4:P54 P
TO PRINT
C4       P= "EXPENSE REPORT FOR:
D4        = "your name here
A6       P= "Day
B6       P= "Date
C6       P= "City and State
D6       P= "Lodging
E6       P= "Airfare
F6       P= "Car Rental
G6       P= "Auto Exp.
H6       P= "Taxi/Bus
I6       P= "Breakfast
J6       P= "Lunch
K6       P= "Dinner
L6       P= "Entertain
M6       P= "Miscellany
N6       P= "DAY TOTAL
A7       P= '_____
B7       P= '____________
C7       P= '________________________
D7       P= '_
D8        = Ø
E8        = Ø
F8        = Ø
G8        = Ø
H8        = Ø
I8        = Ø
J8        = Ø
K8        = Ø
L8        = Ø
M8        = Ø
N8        = SUM(D8:M8)
A9       P= "SUN
A1Ø      P= '_____
B1Ø      P= '____________
C1Ø      P= '_______________________
D1Ø      P= '_
A12      P= "MON
D12       = ØØ
E12       = Ø
F12       = Ø
G12       = Ø
H12       = Ø
I12       = Ø
J12       = Ø
K12       = Ø
L12       = Ø
M12       = Ø
N12       = SUM(D12:M12)
A13      P= '_____
B13      P= '____________
C13      P= '________________________
D13      P= '_
A15      P= "TUE
D15       = Ø
E15       = Ø
F15       = Ø
G15       = Ø
```

```
  | A |   B   |          C          |   D
 1:ENTER INFORMATION, THEN /O D A4:P54 P TO PRINT
 2:
 3:
 4:                 EXPENSE REPORT FOR:your name h
 5:
 6:  Day        Date       City and State    Lodging
 7:_____________________________________________
 8:                                              .0
 9:  SUN
10:_____________________________________________
11:
12:  MON                                         .0
13:_____________________________________________
14:
15:  TUE                                         .0
16:_____________________________________________
17:
18:  WED                                         .0
19:_____________________________________________
20:
^ A1    TL   P Text="ENTER INFORMATION, THEN /O D A
Width:  5  Memory:22 Last Col/Row:054     ? for HEL
  1>
```

```
H15       = Ø
I15       = Ø
J15       = Ø
K15       = Ø
L15       = Ø
M15       = Ø
N15       = SUM(D15:M15)
A16      P= '_____
B16      P= '____________
C16      P= '________________________
D16      P= '_
A18      P= "WED
D18       = Ø
E18       = Ø
F18       = Ø
G18       = Ø
H18       = Ø
I18       = Ø
J18       = Ø
K18       = Ø
L18       = Ø
M18       = Ø
N18       = SUM(D18:M18)
A19      P= '_____
B19      P= '____________
C19      P= '________________________
D19      P= '_
A21      P= "THUR
D21       = Ø
E21       = Ø
F21       = Ø
G21       = Ø
H21       = Ø
I21       = Ø
J21       = Ø
K21       = Ø
L21       = Ø
M21       = Ø
N21       = SUM(D21:M21)
A22      P= '_____
B22      P= '____________
C22      P= '________________________
D22      P= '_
A24      P= "FRI
D24       = Ø
E24       = Ø
```

```
F24       = Ø
G24       = Ø
H24       = Ø
I24       = Ø
J24       = Ø
K24       = Ø
L24       = Ø
M24       = Ø
N24       = SUM(D24:M24)
A25       P= '------
B25       P= '----------
C25       P= '------------------------------
D25       P= '
A27       P= "SAT
D27       = Ø
E27       = Ø
F27       = Ø
G27       = Ø
H27       = Ø
I27       = Ø
J27       = Ø
K27       = Ø
L27       = Ø
M27       = Ø
A28       P= '==========
B28       P= '==========
C28       P= '==========
D28       P= '=
A3Ø       P= "TOTAL
D3Ø       = Ø
E3Ø       = Ø
F3Ø       = Ø
G3Ø       = Ø
H3Ø       = Ø
I3Ø       = Ø
J3Ø       = Ø
K3Ø       = Ø
L3Ø       = Ø
M3Ø       = Ø
N3Ø       = SUM(D3Ø:M3Ø)
O3Ø       = "<--- Total Due You
A32       P= '=======
B32       P= '==========
C32       P= '==========
D32       P= '=
A35 TL    P= "ENTERTAINMENT AND BUSINESS MEALS:
H35       P= "     |
I35       P= "AUTOMOBILE EXPENSES:
L35       P= "     |
M35       P= "MISCELLANY
H36       P= "     |
L36       P= "     |
A37       P= "Date
B37       P= "Time
C37       P= "Name of Person(s)
D37 TR    P= "Nature
G37 TR    P= "Amount
H37       P= "     |
I37 TR    P= "Date
J37 TR    P= "Expense
K37 TR    P= "Amount
L37       P= "     |
M37 TR    P= "Expense
N37 TR    P= "Amount
A38       P= '----------
B38       P= '----------
C38       P= '----------
D38       P= '----------
H38       P= "---  |  ------
I38       P= '-
L38       P= "---  |  -----
M38       P= '---
G39       = Ø
H39       P= "     |
```

continued on page 78

if you use **CP/M®** then you need **DISK FIX!**

DISK FIX is a disk editor which can display, edit or copy any sector of a CP/M 2.xx floppy and/or hard disk. The DISK FIX utility can be used to recover files from disks with damaged directories, to reconstruct files with bad sectors, to restore erased files and to do general disk editing.

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DataBank costs $249. And, it gives you more than other software that costs lots more. Delivery is off the shelf, so get it for your system today. Contact your Osborne Dealer or Data Access Corporation.

DataBank, the data management system for amateurs.

DATAACCESS® CORPORATION
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Puzzler

A rope over the top of a fence has the same length on each side. The rope weighs one-third pound per foot. On one end hangs a monkey holding a banana, and on the other end is a weight equal to the weight of the monkey. The banana weighs two ounces per inch.

The rope is as long as the age of the monkey. The weight of the monkey in ounces is as much as the age of the monkey's mother. The combined ages of the monkey and the monkey's mother are 30 years. Half the weight of the monkey, plus the weight of the banana, is a fourth as much as the weight of the weight and the weight of the rope.

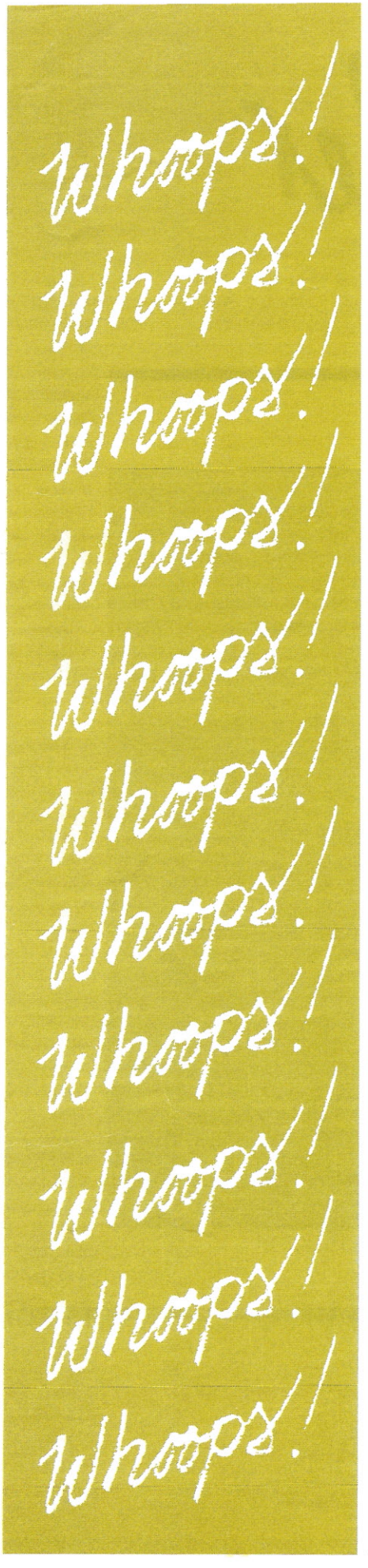
The monkey's mother is half as old as the monkey will be when it is three times as old as its mother was when she was half as old as the monkey will be when it's as old as its mother will be when she is four times as old as the monkey was when it was twice as old as its mother was when she was a third as old as the monkey was when it was as old as its mother was when she was 30 times as old as the monkey was when it was a fourth as old as it is now.

How long is the banana?

There is a solution possible with the information given above. If you come up with an answer, send your solution and the method you used to determine the length of the banana to:

Puzzler—*The Portable Companion*
Osborne Computer Corporation
26500 Corporate Avenue
Hayward, CA 94545

This problem was prepared—and solved—on an Osborne 1 computer. We'll have the answer and a new problem next issue.



We at Osborne Computer Corporation realize that every person and company makes mistakes from time to time. The correct attitude, we believe, is to recognize our mistakes and correct them as quickly and efficiently as possible. Rest assured that we do not walk away from problems and fully intend to be among the very best in supporting our computer.

KEYBOARD UPDATES: Machines shipped to dealers from July, 1981 to November, 1981, all had what we refer to as the "six-key lockout feature", with the alpha lock key depressed, certain character combinations cannot be created. In addition to this obvious problem, a more subtle problem lay in the choice of control key functions chosen; in WordStar, for example, it was possible to make the machine stop funtioning by pressing an unrecognizable (to WordStar) key combination, such as control-hyphen.

In early December Osborne Computer Corporation took steps to correct these problems and add features to the machine. A letter was mailed to all registered owners of Osborne 1's indicating that we would replace the keyboard and ROM in all existing units. We referred to this replacement as the "keyboard upgrade."

By now, every owner of a pre-December Osborne 1 should have their upgrade installed. Those of you who sent in your registration cards late or did not return them at all have now missed out on the free upgrade. As of April 1st, 1982, all subsequent keyboard upgrades were billed to dealers at our rate of producing the components, and dealers were free to add their usual markup and installation charges.

If you are just now getting around to thinking about having your computer upgraded, BY ALL MEANS DO SO! Despite the fact it costs you a few dollars to have it done, the reliability and performance of your Osborne 1 is greatly enhanced by having the upgrade performed. We cannot guarantee that future products will be compatible with a non-upgraded machine.

Our original letter to Osborne 1 owners specified that we would accept upgrade requests and perform them for free for a 30-day time period; we feel that the four months we allowed for free upgrades is more than fair, and certainly more than we promised. If you requested an upgrade but did not receive it, please have your dealer contact us to make arrangements to get it done.

ROM 1.3: A number of Osborne 1's have experienced BDOS or other disk errors. These errors were traced to manufacturing margin problems, and we released a special upgrade to take care of this. This upgrade was only announced to dealers, with the further instruction that the upgrade was to be performed on machines on which the customer had complained about excessive disk problems. You do not need this upgrade if you haven't had problems or if you update to double density. In fact, you may find that you cause problems by having the 1.3 upgrade performed! For the vast majority of Osborne owners, the 1.3 upgrade is totally unnecessary. If you have any questions about this, don't hesitate to contact your official Osborne dealer.

APPROVED SOFTWARE: The approved Software program is now getting ready to gear up a full update service for the software we sell. Indeed, we've already offered one such update—for MicroLink—for the modest charge of $5 plus the return of the original diskette (send such requests to: Wordcraft, 3827 Penniman Ave, Oakland, CA 94619).

Beginning in the next issue of *The Portable Companion* a new regular feature will be added, a listing of all changes made (and that you can make) to update Approved Software products. In the case of substantial changes, we'll announce how to obtain an updated diskette and/or manual in this new column.

In the meantime, keep in contact with your dealer if you have any questions, as we will be providing a full listing of changes to our dealer network in the near future.

□

DATASOURCE

THIS MONTH'S TOP TEN

FOR OSBORNE!

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Features Upgrade Option . . . . . **CALL**

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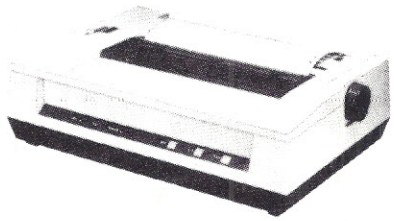

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Numbug - Clean up bacteria before they multiply. (A)

Tag - With the computer or a friend. (A)

Trapper - Trap another player. (A)

Acid Rain - Neutralize rain as it falls before it destroys crops. (A)

Artist - It draws or you draw using all graphics, then save screen. (A)

*Startrek - The classic for Osborne graphics and printer (optional). (A)

*Party Lines - Takes multiple responses and generates goofy text. (B)

General

Attender - keeps track of attendance for up to 600 for church, school, work. Gives data for date or individual. (B)

Grader - Attender plus records of performance of up to one per day. (C)

Portable Software deals exclusively with Osborne 1 software. All games (except *) use graphics and are played in realtime.

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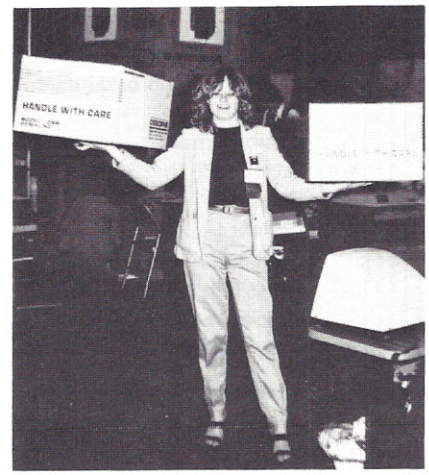
Be Kind to Your Portable Companion



When you make a portable computer you have to be prepared for the unusual to happen.

Probably the most dramatic example brought to our attention to date concerns a man who had his Osborne sitting in the front seat of his auto when he had a "minor mishap." Sure enough, the Osborne, like many of this nation's passengers, wasn't wearing its seatbelt. Our illustrious computer became a 24-pound projectile with only one thing in its way, the front window of the car. Glass cannot stop an Osborne computer from remaining portable, especially when the glass has stopped and the Osborne is still doing over thirty miles per hour.

Once the scene of the accident had been cleaned up and the man involved had time to calm down and begin thinking about things computing, it was decided to see what the damage to the Osborne was. The keyboard was lowered, the unit plugged in, and *voila,* the computer worked perfectly! Indeed the description we received indicated that the case didn't even seem to have a scratch on it; the same could not be said for the automobile.

In another place, another time, an Osborne 1 was "accidentally" dropped down four concrete steps by its rather startled owner. A small dent appeared in the corner of the case upon which the primary jolt had been absorbed, but, again, when the computer was tried out, it worked just fine.

Indeed, this author once placed his Osborne on a raised platform; there it sat, just like a cockeyed sewing machine. A long conversation with some other parties ensued, during which the leaning Osborne was forgotten. The reason for the action is now long forgotten, but the action itself isn't: the Osborne found itself in the way of the author's foot, which, at the time, was traveling extremely fast. The result was that the Osborne was place-kicked off the platform. Three or four rolls later, an examination showed no ill effects other than a rather threatening looking shoe scuff on one side of the case.

Now, the Osborne 1 is not a piece of Samsonite luggage; you should not give your Osborne to a gorilla or drop it form a low-flying plane, nor should you put a small egg in one of the diskette storage pockets and throw the computer out the window of a speeding car to see if the egg will break. We did not design the Osborne to take any of the abuses mentioned above; we did design it to be rugged and reliable.

One thing perplexes us, however. If the Osborne 1 can withstand the abuse just mentioned, how come the trucking service we use to ship Osbornes to dealers seems to have an easier time destroying them than our customers? —TH □

Write for the Portable Companion

The Portable Companion is looking for articles that help Osborne owners learn more about their Osborne 1 computer and the software that comes with it. Article submissions should be typed, double-spaced, and may be any length. Alternatively, you may send article submissions in the format of WordStar text diskettes (Osborne single density, please)—if you are submitting a program listing with an article, it should be sent as a usable file on diskette so that we can check that it does indeed run.

Payment for articles is made upon publication and the rate varies with the quality of the submission. If you want us to return your manuscript, please include enough return postage to do so, otherwise we will not be able to send it back to you.

So, put your Osborne to work. And remember, since the Osborne 1 is a portable computer, you no longer have the excuse that you can't write an article because your "word processor's locked up in the office."

□

Notice

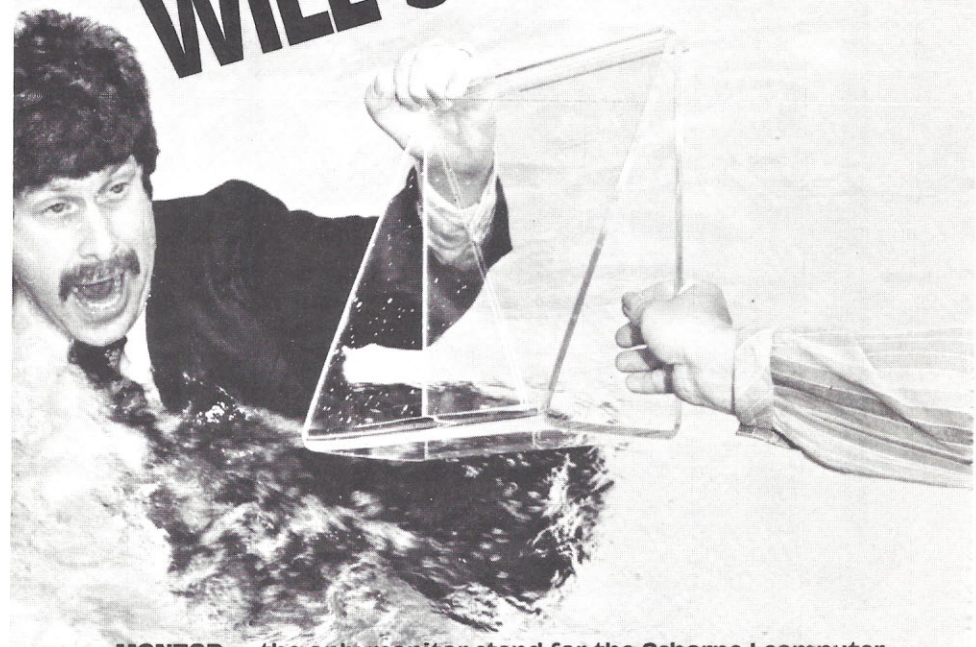
Osborne Computer Corporation has entered into distribution agreements with many software vendors that provide Osborne with the exclusive right to market a significant number of software products. Software which appears under the **Osborne Approved Software** label has been specially prepared by Osborne Computer Corporation and is supported by the factory and the Osborne dealer network.

Software advertised in this magazine—with the exception of the Osborne Approved Software advertisement on page 34—does not have the endorsement of Osborne Computer Corporation, has not been evaluated as to quality and performance by the company, and is not prepared or packaged in the manner all Osborne Approved Software is. Any representation made to you through mail, phone, or other means that indicates that other software packages have Osborne's approval is a false one, and should be reported to Osborne Computer Corporation.

Osborne Approved Software is available only through authorized Osborne dealers and can be recognized by its distinctive packaging. While Osborne Computer Corporation has no desires to dictate who can create and distribute software for our computer, we will deal with any attempt to misrepresent a product as being the same as ours with quick and thorough legal action.

□

MONTOP® WILL SAVE YOU!



MONTOP — the only monitor stand for the Osborne I computer — will save you precious desk space. **MONTOP** will save you buying expensive computer furniture. **MONTOP** will save you from having your monitor fall off your Osborne. **MONTOP** will save your eyes and your neck from uncomfortable viewing positions. **MONTOP** will save you valuable work time and increase your productivity. And **MONTOP** will save you lots of money. **ONLY $29.95!**

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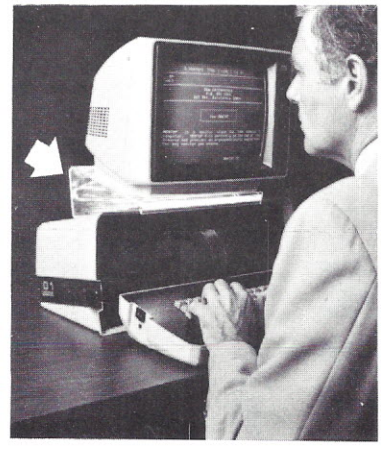
Money back guarantee — Dealer inquiries invited



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Address _____

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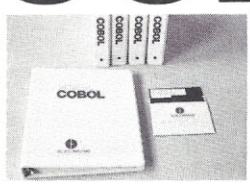

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continued from page 71

```
K39       = Ø
L39       P= "      |
N39       = Ø
G4Ø       = Ø
H4Ø       P= "      |
K4Ø       = Ø
L4Ø       P= "      |
N4Ø       = Ø
G41       = Ø
H41       P= "      |
K41       = Ø
L41       P= "      |
N41       = Ø
G42       = Ø
H42       P= "      |
K42       = Ø
L42       P= "      |
N42       = Ø
G43       = Ø
H43       P= "      |
K43       = Ø
L43       P= "      |
N43       = Ø
G44       = Ø
H44       P= "      |
K44       = Ø
L44       P= "      |
N44       = Ø
G45       = Ø
H45       P= "      |
K45       = Ø
L45       P= "      |
N45       = Ø
G46       = Ø
H46       P= "      |
K46       = Ø
L46       P= "      |
N46       = Ø
G47       = Ø
H47       P= "      |
K47       = Ø
L47       P= "      |
N47       = Ø
A48       P= '
B48       P= '
C48       P= '
D48       P= '
H48       P= "
I48       P= '
L48       P= "
M48       P= '
A49       P= "TOTAL
G49        = SUM(G39:G47)
I49       P= "TOTAL
K49        = SUM(K39:K47)
N49        = SUM(N39:N47)
A52       P= "Attach all relevant receipts and/or
          itemizations.
A54       P= "Sign here to affirm expenses were
          business-related:
F54       P= '
```

TL means Text left justified
TR means Text right justified
P = means Protected entry
' starts Repeated entry
'' starts Text entry

□

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Computerland
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Computerland
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Beaumont, TX 77707
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The Xerox Store
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15340 Dallas Parkway
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The Xerox Store
Caruth Plaza
9100 North Central Expway
Dallas, TX 75231
(214) 739-5861

Computerland
The Corner Shopping Center
8061 Walnut Hill Lane
Suite 912
Dallas, TX 75231
(214) 363-2223

The Xerox Store
1919 Bryan Street
Dallas, TX 75201
(214) 748-5085

Computer Technology, Assoc.
118 Castellano
El Paso, TX 79912
(915) 533-2108

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(817) 732-1771

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Houston, TX 77057
(713) 977-0909

Computerland
17647 El Camino Real
Houston, TX 77058
(713) 488-8153

The Xerox Store
12184 Greenpoint Drive
Houston, TX 77060
(713) 999-5472

The Xerox Store
1010 Lamar
Houston, TX 77002
(713) 654-8913

The Xerox Store
5880 Westheimer Road
Houston, TX 77057
(713) 972-1791

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Suite 11A
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(512) 724-1551

Agriplex Computer
3206 - 34th Street
Lubbock, TX 79410
(806) 797-5771

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3000 North 10th Street
McAllen, TX 78501
(512) 686-3743

Computerland
1535 Promenade Center
Richardson, TX 75080
(214) 235-1285

Computer Shop
6901 Blanco
San Antonio, TX 78216
(512) 340-1979

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76 West Street
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(203) 748-2300

Computerland
Heritage Square
1700 Post Road
Fairfield, CT 06430
(203) 255-9252

Computerland
60 Skiff Street
Hamden, CT 06517
(203) 288-5162

The Xerox Store
593 Farmington Ave.
Hartford, CT 06105
(203) 233-9871

Computerland
131 South Main Street
W. Hartford, CT 06107
(203) 235-9204

Computerland
111 High Ridge Road
Stamford, CT 06905
(203) 964-1224

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Computerland
84 Exchange Street
Portland, ME 04101
(207) 774-1309

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Computers, Etc.
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Annapolis, MD 21404
(301) 268-6505

Computer Crossroads
9143-G Red Branch Rd.
Columbia, MD 21045
(301) 730-5186

Computerland
1516 York Road
Lutherville, MD 21093
(301) 337-5555

The Computer Workshop
1776 E. Jefferson
Rockville, MD 20825
(301) 468-0455

The Xerox Store
827-A Rockville Pike
Rockville, MD 20825
(301) 424-1450

Computers, Etc.
9330 Georgia Avenue
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(301) 558-3748

Computers, Etc.
13-A Allegheny Avenue
Towson, MD 21204
(301) 296-0520

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Boston, MA 02109
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The Xerox Store
44 Federal Street
Boston, MA 02110
(617) 451-5800

The Xerox Store
The Market Place
Burlington, MA 01803
(617) 273-5665

The Xerox Store
1244 Boylston St.
Chestnut Hill, MA 02167
(617) 566-1707

Computer, Source, Inc.
Berkshire Common
Pittsfield, MA 01201
(413) 433-7181

Computerland
Boston
214 Worcester Street
Wellesley, MA 02181
(617) 235-6252

NEW HAMPSHIRE

Computerland
419 Amherst Street
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(603) 889-5238

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Plaza 38 Shopping Center
2442 Route 38
Cherry Hill, NJ 08034
(609) 779-0023

American Business Products
155 North Dean St.
Englewood, NJ 07631
(201) 569-0853

Computer Mart of New Jersey
501 Route 27
Iselin, NJ 08830
(201) 283-0600

Computerland
2940 Brunswick Pike
Lawrenceville, NJ 08648
(609) 882-1400

Jonathan's Apple
One Brick Road
Marlton, NJ 08053
(609) 983-0668

Computerland
74 Elm Street
Morristown, NJ 07960
(201) 539-4077

Computerland
Bergen County
35 Plaza, Route 4 West
Paramus, NJ 07652
(201) 845-9303

Computerland
225 Route 46
Totowa, NJ 07510
(201) 278-4444

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Carle Place, LI, NY 11514
(516) 742-2262

Computerland
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6181 Jerricho Turnpike
Commack, LI, NY 11725
(516) 499-4484

The Xerox Store
Great Neck Mall
Great Neck Rd. and
Middle Neck Road
Great Neck, LI, NY 11021
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Computerland
419 West Seneca
Ithaca, NY 14850
(607) 277-4888

Computerland
251-07 Northern Blvd.
Little Neck, NY 11362
(212) 423-5280

Computerland
46-50 Main Street
Massena, NY 13662
(315) 769-9971

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New York, NY 10036
(212) 840-3223

Datel Systems Corp.
1211 Ave. of the Americas
New York, NY 10036
(212) 921-0110

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New York, NY 10036
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Providence, RI 02903
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Computerland
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Burlington, VT 05401
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Alexandria, VA 22310
(703) 922-7850

The Xerox Store
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Fairfax, VA 22030
(703) 591-8845

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Richmond, VA 23233
(804) 741-3502

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Springfield, VA 22150
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Computerland
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Computerland
3415 Murdoch Avenue
Parkersburg, WV 26101
(304) 485-6823

Computerland
224 7th Avenue
S. Charleston, WV 25303
(304) 768-5066

CANADA

Computerland
1212 - 1st, SE
Calgary. Alberta T2G 2H8
CANADA
(403) 237-6423

L.A. Varah Ltd.
4742 14th St. N.E.
Calgary, Alberta T2E 6L7
CANADA
(403) 230-1235

Computerland
10506 82nd Avenue
Edmonton, Alberta T6E 2A4
CANADA
(403) 433-1491

L.A. Varah Ltd.
2077 Alberta Street
Vancouver,
British Columbia V5Y 1C4
CANADA
(604) 873-3211

Paragon Computer Group Ltd.
567 Clarke Road
Coquitlam,
British Columbia V3J 3X4
CANADA
(604) 939-6461

Computerland
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Burlington, Ontario L7R 3M8
CANADA
(416) 632-5722

L.A. Varah Ltd.
505 Kenora Ave.
Hamilton, Ontario L8E 3P2
CANADA
(416) 561-9311

Computerland
5200 Dixie Road Unit 7
Mississauga, Ontario L4W 1E4
CANADA
(416) 624-2382

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Winnipeg, Manitoba R2R 0N1
CANADA
(204) 633-6190

Computerland
4160 Rue Ste. Catherine Quest
Montreal, Quebec H32 2Y5
CANADA
(514) 933-4208

Computerland
136 O'Connor Street
Ottawa, Ontario K2P 2G7
CANADA
(613) 236-6411

Computerland
2180 Yonge Street
Toronto, Ontario M4S 2B9
CANADA
(416) 485-6700

Computerland
318 Ontario Street
St. Catherines, Ontario L2R 5L8
(416) 688-1187

Computerland
115 Ropewalk Lane
St. John's,
Newfoundland A1E 4P1
CANADA
(709) 579-5126

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Sometimes finding the information you need is impossible. And even if you can find the information, you often have to search long and hard to locate it.

To help alleviate the fruitless searches for first-time computer owners, *The Portable Companion* prints a one-page list of names and addresses each issue, ostensibly for one type of product. This month we list a representative sampling of printer manufacturers. We cannot, of course, include every possible source in these lists, but we do make an effort to make our choices a fair and reasonable selection of what is currently available. As we identify other printer manufacturers you may be interested in, we'll keep you updated with new information.

DOT MATRIX PRINTERS

Anadex
8825 DeSoto Ave.
Chatsworth, CA 91311

Axiom Corporation
1014 Griswold Ave.
San Fernando, CA 91340

Centronics Data Computer Corporation
One Wall Street
Hudson, NH 03051

C. Itoh Electronics Inc.
5301 Beethoven Street
Los Angeles, CA 90066

Epson America, Inc.
23844 Hawthorne Blvd.
Torrance, CA 90505

Heath Company
Benton Harbor, MI 49022

Micro Peripherals Inc.
4426 S. Century Drive
Salt Lake City, UT 84107

NEC Information Systems, Inc.
5 Militia Drive
Lexington, MA 02173

Okidata Corporation
111 Gaither Drive
Mt. Laurel, NJ 08054

Radio Shack
1800 One Tandy Center
Fort Worth, TX 76102

Texas Instruments, Inc.
Box 1444
Houston, TX 77001

LETTER-QUALITY PRINTERS

C. Itoh Electronics, Inc.
5301 Beethoven Street
Los Angeles, CA 90066

Diablo Systems, Inc.
24500 Industrial Blvd.
PO Box 5003
Hayward, CA 94545

NEC Information Systems, Inc.
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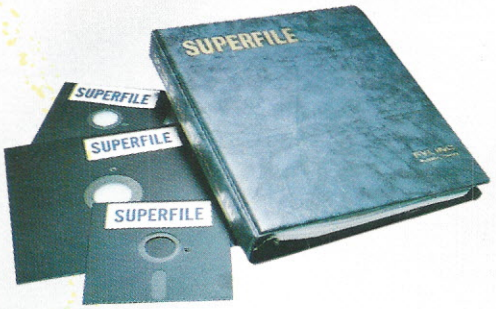

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The MONDAPT external monitor, designed for the Osborne Model 1 computer system, enables the use of any standard video monitor with the Osborne 1 computer.

The MONDAPT II is a combination package and includes the MONDAPT and a UHF modulator. This allows the use of television sets as monitors without "hard wire" connections to the television set.

The Centronics printer cable allows the use of the IEEE-488 port as a centronics conformal interface for printers. This cable is 5' long and avoids the need for a serial to parallel interface in the printer.

The IEEE-488 adaptor cable provides the standard IEEE-488 interface connection to the Osborne 1 computer.

The KEYBOARD EXTENDER cable is intended to increase the freedom of movement for the keyboard of the Osborne 1. This cable plugs into the Osborne 1's keyboard connector and then the keyboard cable plugs into the other end. The standard length is 24".

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These products are in stock at local dealers. You may contact JMM directly for assistance. Overseas shipments are no problem.

JMM enterprises

(714) 748-8329

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